ORDER NO. VSD9411M638

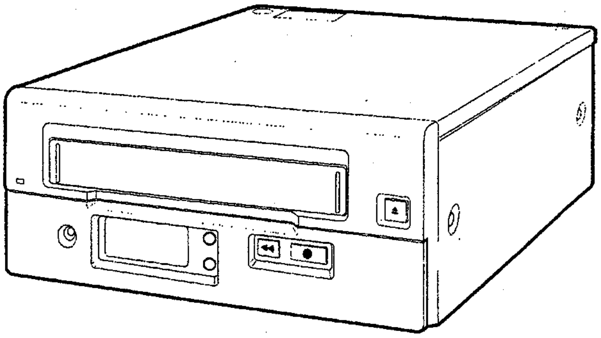
Service Manual

Simplified

Panasonic

Time Lapse Video Cassette Recorder

AG-1070DCE



Please file and use this manual together with the service manual for AG-6124 (OrderNo. VSD9406M635) and K-Mechanism (Order No. VSD9402M632)

SPECIFICATIONS

ITEM	SPECIFICATION	
Power	Source	AG-1070DC: DC12V
	Consumption	AG-1070DC: Approx. 14Watts
Television Format	EIA Standard (625 lines, 50fields) PAL color signal	
Tape Speed	23.39mm/s (1-15/16 i.p.s)(3H mode)	
Tape Format	VHS Format	
FF/REW	Less than 3 min. (with 180min. tape)	
Video	Head	4 rotary heads, helical scaning system 48μm (NOR) × 2, 33μm (SLP) × 2
	Luminance	FM azimuth recording
	Color signal	Converted subcarrier phase shift recording
	Input level	LINE (BNC); 1.0Vp-p, 75Ω unbalanced
	Output level	LINE (BNC×2); 1.0Vp-p, 75Ω unbalanced
	Signal-to-Noise Ratio	B/W; 46dB COLOR; 46dB
	Horizontal Resolution	B/W; 320 lines Color; 240 lines

ITEM	SPECIFICATION	
Audio	Head	Normal Audio Control; 1 stationary head Erase; 1 full track erase, 1 Audio track erase
	Tracks	Normal audio; 1 track
	Input level	LINE (phono): −10dBV, 47kΩ unbalanced MICROPHONE (Mini-jack;M3) −60dBV, 600Ω unbalanced
	Output level	LINE (phono): −8dBV, 1kΩ unbalanced
	Frequency Response	50Hz to 10kHz (3H mode) 50Hz to 5kHz (6H mode)
	S/N Ratio	better than 42dB
Operating Condition	Temperature	5℃-40℃ (41℉ to 104℉)
	Humidity	35%-80%
Dimensions	270 mm(W) × 120 mm(H) × 344.5mm(D)	
Weight	Approx. 4.8 kg	
Optional Accessories	Remote controller ································AG-A11	

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

INTRODUCTION

This simplified Service Manual describes the differences between the AG-6124 and AG-1070DC. Please use this simplified service manuals for together with the AG-6124 (Order No.VSD9406M635) and K-Mechanism (Order No.VSD9402M632).

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SCHEMATIC DIAGRAMS and PARTS LIST COMPARISON CHART.

Please Refer to page for AG-6124E Service Manual and AG-1070DCE Simplified Service Manual.

PC BOARD	PARTS NO. for AG-1070DCE		Service Manual AG-6124E		Simplified Service Manual AG-1070DCE	
			SCM-PAGE	PARTS-PAGE	SCM-PAGE	PARTS-PAGE
MAIN	VEP06195H	VIDEO 1	SCM-2	PARTS-12	SAME AS AG-6124E	PARTS-9
		VIDEO 2	SCM-2	PARTS-12		PARTS-9
		SYSTEM CONTROL	SCM-3	PARTS-12		PARTS-9
		MOTOR DRIVE	SCM-4	PARTS-12		PARTS-9
		AUDIO MAIN	SCM-4	PARTS-12		PARTS-9
		INTER FACE	SCM-12	PARTS-12		PARTS-9
FRONT	VEP06914C		SCM-8	PARTS-11	SAME AS AG-6124E	
FRONT JACK	VEP06916C		SCM-8	PARTS-11	SAME AS AG-6124E	
REAR JACK	VEP04428A		SCM-9	PARTS-10	SAME AS AG-6124E	
BUCK UP SUB	VEP00T75A		SCM-9	PARTS-8	SAME AS AG-6124E	
AUDIO	VEP04435A		SCM-5	PARTS-10	SAME AS AG-6124E	
VIDEO SUB	VEP03A77C		SCM-3	PARTS-9	SCM-3	PARTS-8
HEAD AMP	VEP05193A		SCM-6	PARTS-11	SAME AS AG-6124E	
POWER 1	VEP01606A		SCM-10	PARTS-8	SCM1 / 2	PARTS-7
POWER 2	VEP01607A		SCM-10	PARTS-8	SCM1 / 2	PARTS-8
MECHA CONNECTION	VEP00S63C		———	PARTS-17	SAME AS AG-6124E	
Chassis Parts Section(1)			PARTS-1	PARTS-2	PARTS-1	PARTS-2
Casing Pasrts Section(3)			PARTS-4	PARTS-4	PARTS-3	PARTS-4
Packing Parts Section(4)			PARTS-6	PARTS-4	PARTS-5	PARTS-4

Cautions for the AG-6124 and AG-1070DC

- **DO NOT REMOVE PANEL COVER BY UNSCREWING.**
  To reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING:
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Remark:
This apparatus was produced to BS 800.
Dieses Modell entspricht der EG-Vorschrift (für Funkstörungsschutz) 87/308/EWG.
La Société PANASONIC-FRANCE, importateur du matériel MATSUSHITA-JAPON déclare que cet appareil est conforme aux prescriptions de la directive 76/889/C.E.E. modifiée par la directive 87/308/C.E.E.
Dit model is onderworpen aan de EEG-richtlijn (ter voorkoming van radio-interferentie) 87/308/EEG.
Denne model opfylder EF direktiv 87/308/EF (for forebyggelse af radiointerferens).
La Società PANASONIC ITALIA S.p.A., importatrice di questo prodotto, dichiara che questo apparecchio è conforme alle disposizioni della direttiva C.E.E./87/308 (D.M. 13.4.1989).
Este modelo cumple con la norma EC (para interferencias de radio 87/308/EEC).

Lithium Battery

Warning
The lithium battery in this equipment must only be replaced by qualified personnel. When necessary, contact your local Panasonic supplier.

"The lithium battery is a critical component (type number VL2330/1HF manufactured by Panasonic.)

It must never be subjected to excessive heat or discharge. It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacturer. They must be fitted in the same manner and location as the original battery, with the correct polarity connections observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose. It should be disposed of in waste products destined for burial rather than incineration."

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

VARNING
Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

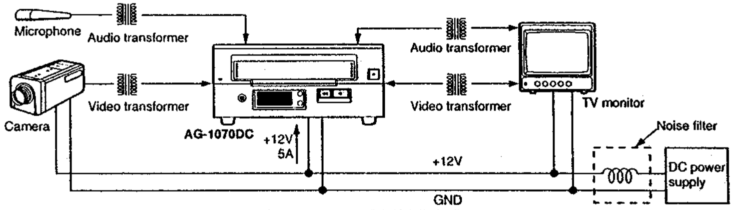
ADVARSEL!
Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyypiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

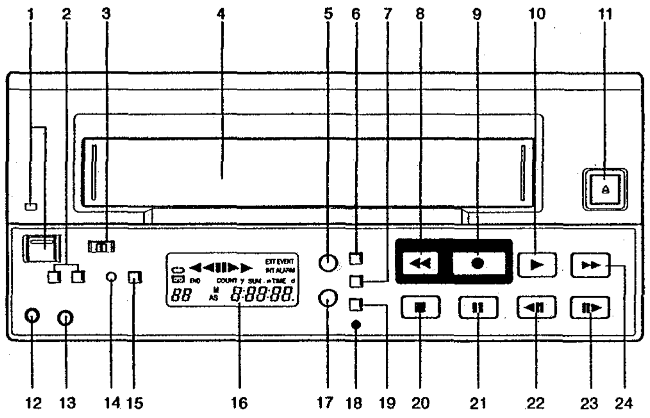
☐ is the safety information.

Caution for AG-1070DC

1. A DC voltage ranging from 10.0V to DC 16.0V can be supplied to operate this VTR. Ensure that the VTR is operated within this range.
   The VTR must be operated only in a car with a negative ground. Under no circumstances should it be operated in a car with a positive ground.
2. A power supply current of approximately 5A is required. Use a DC power supply capable of supplying sufficient power. If the power capacity is insufficient, the unit will not operate properly. Care should therefore be taken to ensure that capacity is sufficient.
3. Not all the power to this VTR will be turned OFF by setting the front panel switch to OFF. The clock will still operate and the lithium battery will continue to be charged. Please give this point special consideration when using a battery as an external power supply.
4. When extraneous noise reaches the equipment through the power line, it may appear on the picture or be heard in the sound. In a case like this, insert a power supply noise filter designed for car component in the power line. Select the filter carefully so that no voltage drop will occur.
   For further information, consult with your dealer.
5. When a single DC power supply is being used to supply power to not only the VTR but also the VTR monitor and camera, interference may occur between the components and this may appear as noise on the picture or be heard as noise in the sound. An effective way to deal with this is to connect the signal lines of the component through video and audio transformers so that the DC current is not allowed to flow to the signal lines.
   For further information, consult with your dealer.



Parts And Their Functions



❶ **VTR switch/STANDBY lamp**
The power is turned on when this switch is pressed, and lamp lights. When the switch is pressed again, the power is turned off and the lamp goes off.

❷ **Tracking (–, +) buttons**
These buttons are used to adjust the tracking. If noise appears on the playback picture, press the buttons to adjust the tracking is such a way that the picture is made as clear as possible. When both buttons are pressed together, the tracking is adjusted automatically.

❸ **MENU/REC LOCK switch**
When this switch is set to REC LOCK, the time mode and operation buttons as well as the power switch cannot be operated while recording is in progress.
When it is set to MENU, the menu screen appears.

❹ **Cassette holder**
This is the loading slot for the video cassette.

❺ **REC display lamp**
This lamp lights while recording is in progress. It goes off when recording is reset.

❻ **RESET button**
When this button is pressed, the counter display is reset to 0:00:00.

For Swedish and Danish Customers

- Aven om denna omkopplare är i "OFF"-läge, gar fortfarande en del av apparaten nätspänning.
- Selv om denne omskifter er i "OFF" stilling, tilføres en del af apparatet stadig strøm.

❼ **COUNTER/SEARCH selector button**
When this button is pressed, the display on the display panel changes to time, counter, counter memory and alarm search.
The "M" mark appears on the display panel in the counter memory mode. When the tape is fast forwarded or rewound in this mode, the counter will automatically stop when 0:00:00 is approached. The "AS" mark appears on the display panel in the alarm *search mode. When the tape is fast forwarded or* rewound in this mode, the unit is automatically set to still-picture playback at the alarm recording section.

❽ **REW button**
When this button is pressed, the tape is rewound. When it is kept depressed during playback, the review mode is established. When the button is pressed during recording, the tape runs temporarily in the reverse direction, and after the recorded section has been played back, the unit is returned to the recording mode.

❾ **REC button**
Recording starts when this button is pressed.

❿ **PLAY (page) button**
Playback starts when this button is pressed. The pages on the menu screen are advanced when the button is pressed while a menu screen is displayed.

⓫ **EJECT button**
This is used to eject the video cassette.

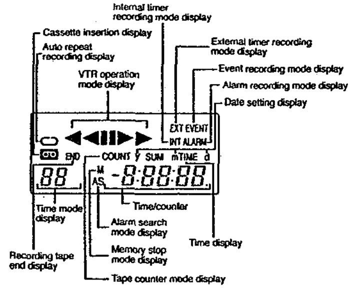
⓬ **REMOTE control connector**
For connecting the AG-A11 remote controller which is available as an optional accessory.

⓭ **MIC input jack**
Input jack (3 mm) for an external microphone.
This jack has precedence when signals are supplied simultaneously to this jack and the audio input connectors.

⓮ **INT TIMER display lamp**
This lights when internal timer recording has been set.

⓯ **TIMER MODE (REC MODE) button**
This is the operation button for internal timer recording or external timer recording. The displays shown below light on the display panel.
INT: At the times set by the internal timer, the power is automatically turned on or off and recording starts or stops.
No display: When timer recording is not performed.
EXT: When the external power is turned on, recording starts automatically.

⓰ **Display panel**


Internal timer recording mode display
Cassette insertion display
Auto repeat recording display
VTR operation mode display
External timer recording mode display
Event recording mode display
Alarm recording mode display
Date setting display
EXT EVENT
INT ALARM
END
COUNT
SUM
TIME
d
M
AS
88
-8:88:88
Time mode display
Time/counter
Alarm search mode display
Memory stop mode display
Time display
Recording tape end display
Tape counter mode display

- Operation mode displays

Operation mode	Display
Playback	►
Recording	► REC lamp lights.
Still picture	▮▮
Recording pause	▮▮ REC lamp lights.
Recording check	► REC lamp lights.
Fast forwarding	►►
Rewinding	◄◄
Cue	►►
Review	◄◄
Forward field advance	▮▮
Reverse field advance	▮▮

- Error messages
An error code appears when trouble has occurred during operation.
E-2: Trouble in video cassette insertion area
E-3: Trouble in video cassette tape loading area
E-4: Trouble in cylinder area
E-5: Trouble in tape transport area
d: Formation of condensation (dew)

⓱ **ALARM display lamp**
This remains lighted while alarm recording is in progress. It flashes when alarm recording ends.

⓲ **SUMMER TIME button**
This is used to switch between the present time and summer (daylight saving) time.

⓳ **TIME MODE button**
This is used to select the recording and playback time mode. Each time this is pressed, the time mode changes in the following sequence:

→ 3 → 6 → 12→ 24

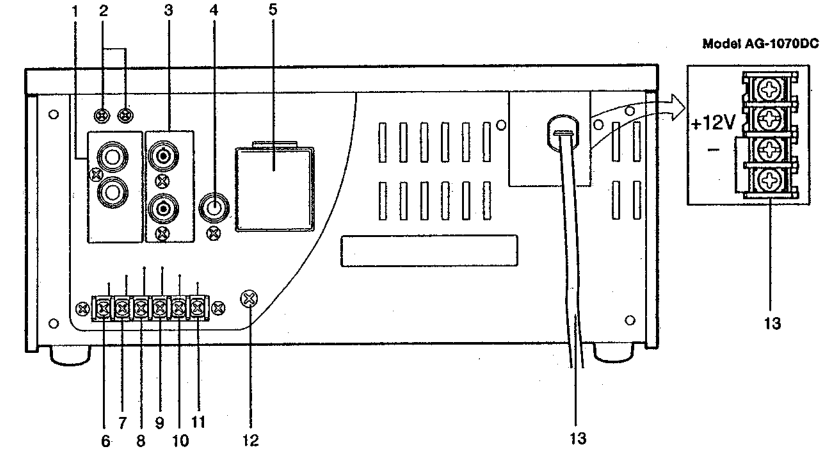
⓴ **STOP (shift) button**
When this is pressed, the tape stops traveling. When it is pressed while a menu screen is displayed, the setting items move downward.

㉑ **PAUSE/STILL (shift) button**
When this is pressed during recording, the tape temporarily stops traveling. When pressed during playback, the tape temporarily stops traveling, and a still picture appears on the TV monitor. When pressed again, the tape travel resumes.
When it is pressed while a menu screen is displayed, the setting items move toward the right.

㉒ **Field REV ADV (set) button**
When this is kept depressed during still-picture playback, the picture is advanced field by field in the reverse direction. When it is released, the still picture reappears. When a menu screen is displayed, it is used to change an item (decrement a value).

㉓ **Field FWD ADV (set) button**
When this is kept depressed during still-picture playback, the picture is advanced field by field in the forward direction. When it is released, the still picture reappears. When a menu screen is displayed, it is used to change an item (increment a value).

㉔ **FF button**
When this is pressed, the tape is fast forwarded. When it is kept depressed during playback, the unit is placed in the cue mode.



① **Audio input/output connectors**
Audio input/output connectors (phono jacks)

② **Vertical hold controls (3h, 6h)**
When the image on the TV monitor runs vertically during still-picture playback, adjust these controls by turning them with a small screwdriver.

③ **Video input/output connectors**
Video input/output connectors (BNC); connect the input connector to the video camera, etc. and the output connector to the TV monitor, etc.

④ **Camera switching output connector**
Camera switching output connector; connect it to the sequential switcher.

⑤ **Battery installation area**
Install the battery in this area. See "Lithium Battery" on page E-2.

⑥ **Alarm input connector**
Alarm recording input connector; connect it to the external sensor.

⑦ **COMMON terminal**

⑧ **Alarm reset input connector**
Input connector for releasing alarm recording; a +4 to +14V DC voltage is required.

⑨ **SUMMER TIME IN connector**
This is used to switch between the present time and summer time. (See page E-13.)

⑩ **Tape end output connector**
When the cassette tape comes to its end during recording, the alarm device installed externally is activated.

⑪ **WARNING output connector**
When trouble has occurred in the unit, the alarm device installed externally is activated.

⑫ **Ground terminal**

Model AG-6124
⑬ **Power cable**

Model AG-1070DC
⑬ **DC 12V input connector**
Caution
When being powered by the car battery, wire the +12V power line using a 5A fuse.

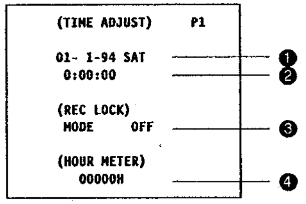
Menu Screens

One of the menu screens appears on the TV monitor when the MENU/REC LOCK switch is set to MENU. The display returns to the regular screen when this switch is set to OFF.

- When a menu screen has appeared, the items are set using the page, shift and set buttons.
- Advance through the pages ("page up") of the menu screen using the page button.
- Move the items (downward or toward the right) using the shift button.
- Change the items (increment or decrement the values) using the set button.

MENU SCREEN 1

In addition to the date and time display and the recording mode lock setting which appear on the TV monitor, the hour meter is displayed on Menu Screen 1.



```
(TIME ADJUST)      P1

01- 1-94 SAT
 0:00:00

(REC LOCK)
 MODE      OFF

(HOUR METER)
  00000H
```

① **Date setting (see page E-11)**

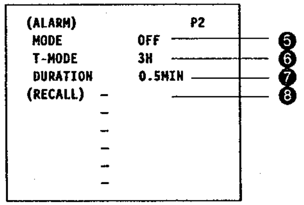
② **Time setting (see page E-11)**

③ **Recording mode lock**

④ **Hour meter (see page E-17)**
This indicates the unit's total operation time (the cumulative total for the cylinder rotation time).

MENU SCREEN 2

The alarm recording mode is set on Menu Screen 2.



```
(ALARM)              P2
 MODE          OFF
 T-MODE        3H
 DURATION      0.5MIN
(RECALL)  -
          -
          -
          -
          -
          -
```

⑤ **Alarm recording mode selection (see page E-25)**
The recording mode in the event of an alarm input is selected. (OFF → ALARM → EVENT)

⑥ **Alarm recording time mode selection**
When there is an alarm input during recording in the time lapse mode, the recording time mode is switched to the designated mode, and the details of the alarm status are recorded faithfully. (3H/6H)

⑦ **Alarm recording duration setting**
This sets the time elapsing from the start of alarm recording until its end. This time can be set in 30-second increments from 0.5 to 3 minutes. (0.5 → 1.0 → 1.5 → 2.0 → 2.5 → 3 → CONTINUE → MANUAL)
CONTINUE: Alarm recording continues until the tape end.
MANUAL: Alarm recording is performed while the alarm input continues.
Note:
When using the unit with the alarm recording duration set at "MANUAL" on Menu Screen 2, select "STOP" or "REW" for TAPE END mode on Menu Screen 3.

⑧ **Alarm recall (see page E-27)**
This checks the input times (up to 6) of the alarm signals.

MENU SCREEN 3

The position of the display on the TV monitor and VTR modes are selected on Menu Screen 3.

```
(DISPLAY)            P3
 POSITION    L-UPPER ——— ⑨
(REC MODE)
 TAPE IN     STOP    ——— ⑩
 TAPE END    STOP    ——— ⑪
 REC T-MODE  OFF     ——— ⑫
(VIDEO MODE)
 MODE        AUTO    ——— ⑬
 SHARPNESS   OFF     ——— ⑭
 12/24H PLAY ON      ——— ⑮
```

⑨ **Display position selection (see page E-14)**
This selects the position of the date/time display on the TV monitor.
(L-UPPER → R-UPPER → L-BOTTOM → R-BOTTOM → CENTRE → OFF)

⑩ **Selection of VTR operation when cassette is inserted**
STOP: Stop mode
REC: Simply by inserting the cassette tape, recording is started automatically.
REW → REC: When the cassette is inserted, it is first rewound to the start of the tape and then recording is started automatically.

⑪ **Selection of operation when tape end is detected during recording (see page E-23)**
STOP: Stop mode
REW: The tape is automatically rewound to the start where it stops.
REPEAT: The tape is automatically rewound to the start, and recording is repeated.

⑫ **Recording time mode selection**
When recording starts, the set time mode is always established.
(OFF → 3H → 6H → 12H → 24H)
OFF: Any time mode can be set using the TIME MODE button on the front panel. It can be changed even while recording is in progress.

⑬ **Video signal mode**
This selects the operation of the colour/black-and-white automatic selector circuit.
AUTO: The circuit automatically identifies the type of video input or playback signals, and selects the colour or black-and-white mode accordingly.
B/W: The black-and-white mode is forcibly established.

⑭ **Playback picture quality selection**
The outlines of the playback images can be emphasized.
OFF: Regular mode
ON: The playback picture has emphasized outlines.

⑮ **12-/24-hour time mode playback system**
This selects the system in which a tape is to be played back in the time lapse mode. It is set to ON for playing back a tape which was recorded in the 12-/24-hour time mode.

MENU SCREEN 4

The internal timer recording modes are set on Menu Screen 4.

```
(INTERNAL TIMER REC)  P4
 (TIMER)  START  STOP ——— ⑯
SUN OFF
MON OFF
TUE OFF
WED OFF
THU OFF
FRI OFF
SAT OFF
DLY OFF
```

⑯ **Internal timer recording mode setting (see page E-18)**
This sets the weekly timer or daily timer recording mode. (OFF/ON)
OFF: Internal timer recording is not set.
ON: Internal timer recording is set. (The start and stop times are set.)

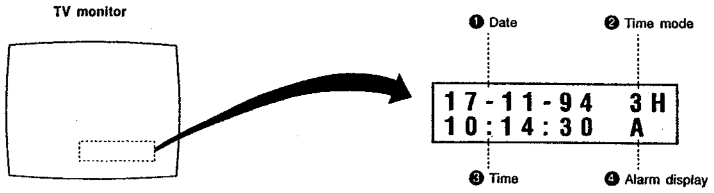
Note: Internal timer recording does not operate when the date and time have not been set.

CAUTION:

- The menu screens are not displayed while the unit is playing back a tape.

Date and Time Settings

This unit comes with a time/date generator which enables the date and time to be superimposed on the recording. When the power is switched on, the date, time of the day and time mode are displayed (in the case of a regular screen).

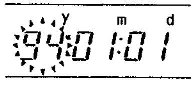
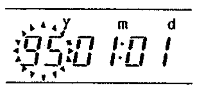
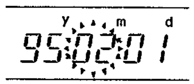


❶ **Date:**
The date appears as day/month/year.

❷ **Time mode:**
This is set by pressing the TIME MODE button. It flashes unless recording is in progress.

❸ **Time:**
The 24-hour system is used.

❹ **Alarm display:**
This appears during alarm recording.

Step	Operation **Example:** Setting the date and time to Friday, February 17, 1995 at 3:25. The time mode is set to 24 hours.	Monitor display	Display area
1	Set the MENU/REC LOCK switch to MENU. Menu Screen 1 appears, and the year digits flash. OFF MENU ☐ REC LOCK ⇦	Menu Screen 1 (TIME ADJUST) P1 01- 1-94 SAT 0:00:00	
2	Press the SET (+, –) buttons to set the year to "95." ◀II II▶ – SET +	(TIME ADJUST) P1 01- 1-95 SUN 0:00:00	
3	When the shift (>) button is pressed, the month digits flash. Press the SET (+, –) buttons to set the month to "2." PAUSE/STILL REV FWD II ◀II II▶ > – SET +	(TIME ADJUST) P1 01- 2-95 WED 0:00:00	

Step	Operation	Monitor display	Display area
4	When the shift (>) button is pressed, the day digits flash. Press the SET (+, –) buttons to set the day to"17". ▮▮ ◀▮▮ ▮▮▶ > – SET + • The year can be set from 1994 to 2009.	(TIME ADJUST) P1 17- 2-95 FRI 0:00:00	y m d 95:02:17
5	When the shift (V) button is pressed, the hour digits flash. Press the SET (+, –) buttons to set the hour to "3." ▮ ◀▮▮ ▮▮▶ V – SET +	(TIME ADJUST) P1 17- 2-95 FRI 3:00:00	TIME 3:00.
6	When the shift (>) button is pressed, minute digits flash. Press the SET (+, –) buttons to set the minutes to "25." ▮▮ ◀▮▮ ▮▮▶ > – SET +	(TIME ADJUST) P1 17- 2-95 FRI 3:25:00	TIME 3:25
7	When the MENU/REC LOCK switch is set to OFF, the clock automatically starts running from time and date set. OFF MENU ☐☐☐ REC LOCK For the seconds, "00" is set. Even when the switch is set to MENU, the time will keep advancing if it has not been changed.	(TIME ADJUST) P1 17- 2-95 FRI 3:25:00	TIME 3:25.

- To clear the date and time display, set POSITION under (DISPLAY) on Menu Screen 3 to OFF.
- Even if the power should fail for a period of up to one week, the date, time and time mode display data are stored in the memory (but only if power has been supplied continuously to the unit for 3 or more days). When the unit has just been purchased or when it has not been used for along time, the data is not stored in the memory and the display shown below appears.

```
(TIME ADJUST)    P1

01- 1-94 SAT
 0:00:00
```

- For the date setting, the unit automatically adjusts for leap years.
- Due to temperature fluctuations and other factors, the clock time may run fast or slow with a monthly error of up to ±60 seconds. This is not indicative of malfunctioning. Reset the time at regular intervals.

Summer time setting

When the SUMMER TIME button is pressed with a small screwdriver, the time is automatically advanced by one hour, and at the same time "SUM" appears on the display. When the button is pressed again, the time returns to its original setting, and at the same time "SUM" disappears from the display.

- The above settings can also be performed at the SUMMER TIME IN connector on the rear panel.

- The following phenomenon occurs when the date and time are set with the summer time setting.

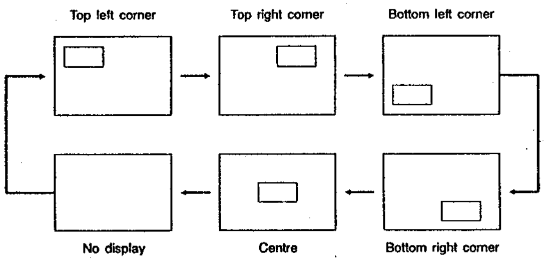
<Example> 31 - 12 - 1995 (SUN) 23:22:00

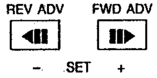
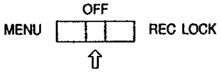
When the "hour" has been changed, be absolutely sure to check that the date is correct.

"Hour" setting	Date	Example
23 → 0	Moved up by 1 day	1 - 1 - 1996 (MON) 0:22:00
0 → 1	Moved down by 1 day	31 - 12 - 1995 (SUN) 1: 22:00
1 → 0	Moved up by 1 day	1 - 1 - 1996 (MON) 0:22:00
0 → 23	Moved down by 1 day	31 - 12 - 1995 (SUN) 23:22:00

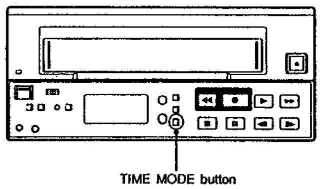
Time/Date Display Position

The position of the date and time displays on the TV monitor changes as shown below when (DISPLAY) on Menu Screen 3 is changed.



Step	Settings and operation	TV monitor display
1	Set the MENU/REC LOCK switch to MENU to display to menu screens. Press the page button to display Menu Screen 3 on the TV monitor. OFF MENU REC LOCK PLAY PAGE	Menu Screen 3 (DISPLAY) P3 POSITION L-UPPER (REC MODE) TAPE IN STOP TAPE END STOP REC T-MODE OFF (VIDEO MODE) MODE AUTO
2	Press the set (+, –) buttons to position the display as desired. 	(DISPLAY) P3 POSITION L-BOTTOM (REC MODE) TAPE IN STOP TAPE END STOP REC T-MODE OFF
3	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored, and the date and time appear at the selected position. 	25- 6-94 24H 4:15:23

Time Mode Selection



Refer to the table given below to select the mode that suits the intended purpose of use.

Tape type / Mode	Recordable time (hours)				Video recording interval (sec.)	Sound recording	Camera switching interval (sec.)	Tape travel method
	NV-E180	NV-E120	NV-E90	NV-E60				
3 hours	3	2	1.5	1	1/50	Yes	0.04	Continuous travel at 23.39 mm/sec.
6 hours	6	4	3	2	1/50	Yes	0.04	Continuous travel at 11.69 mm/sec.
12 hours	12	8	6	4	0.1	Yes	0.1	Continuous travel at 4.678 mm/sec.
24 hours	24	16	12	8	0.18	Yes	0.18	Continuous travel at 2.599 mm/sec.

Notes on operation

- This unit is designed with the NV-E180 cassette tape as a reference.
- Depending on the type of video cassette used, the recordable time will differ.
- Sound can be recorded in all time modes.
- The 12- and 24-hour modes are time lapse modes. Pictures are recorded with frames skipped to enable lengthy recording and playback.
- A tape recorded in a time lapse (12-/24-hour) mode can be played back in quick motion in the 3-hour mode.
- A tape recorded in the 3-hour mode can be played back in slow motion using the time lapse (12-/24-hour) mode.
- A tape recorded in the 3-hour mode cannot be played back in the 6-hour mode.
- A tape recorded in the 6-hour mode cannot be played back in the 3-hour mode.
- When a 6-hour-mode-recorded tape is played back only in the normal 6-hour mode, the picture will be viewed in colour. If it is played back in other modes, black and white pictures can be played back. But it is not a sign of malfunction.

Selecting the cassette tape

The unit is designed as a product required to exhibit high reliability in surveillance, security, monitoring, etc. In order to maintain its recording reliability, it is recommended that the Panasonic video tapes listed below be used.

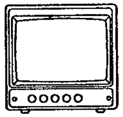
<VHS tapes>
- NV-E180
- NV-E120
- NV-E90
- NV-E60

- Avoid using 240-minute tapes with this unit.

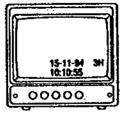
Recording Procedure

❶ Switch on the power to the connected equipment.

❷ Adjust so that the images of the video cameras appear properly on the TV monitor.



❸ Check that the date and time displayed on the TV monitor have been adjusted properly.



❹ Insert a cassette tape into the unit after checking that the tab on the cassette is intact.

❺ Set the timer recording, auto repeat recording, alarm recording, restoration-of-power-after-failure recording or other recording function.

❻ Select the time mode for the recording.

TIME MODE

□

❼ Press the REC button.

REC

●

Notes on operation
- If the PAUSE/STILL button is pressed during recording, the unit is set to the pause mode, and after about 5 minutes in this mode it is transferred to the stop mode.
- Neat frame-to-frame continuity is not achieved if the recording mode is set again after the PAUSE/STILL button is pressed during recording.
- When the MENU/REC LOCK switch has been set to OFF, other operations can be performed during recording.
- When restoration-of-power-after-failure recording is performed,recording can be continued in the same time mode even if the power should fail provided that the power is restored within about one week. (This applies only if the power has been supplied continuously for 3 or more days.)
- When performing auto repeat recording or timer recording, do not neglect to conduct the routine inspections.
- When recording images from a black-and-white camera, set the video signal mode on Menu Screen 3 to B/W.
- Remove the cassette tape if the unit is to be left standing for a prolonged period of time.
- When the power supply is interrupted during recording (with the power switch still ON), a non-recorded portion will be made in the beginning of the tape travel, or the tape will be over-recorded at its ending section. But this is not a malfunction.

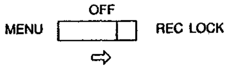
Tips For Better Recording

In order to ensure greater reliability in monitoring, surveillance and other continuous operations lasting many hours, this unit comes with some safety functions for recording. Read the following descriptions of these functions before proceeding to operate the unit.

Recording mode lock

There are two ways, as described below, to maintain the recording mode during recording by disabling the operations of the power switch as well as the TIME MODE and operation buttons.

❶ Set the MENU/REC LOCK switch to REC LOCK.

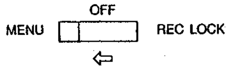


❷ Set REC LOCK on Menu Screen 1 to ON. (See Note)

The following switch and connectors are operational even if the MENU/REC LOCK switch is set to REC LOCK.
- Alarm input connector, alarm reset connector
- REC REVIEW

Hour Meter

By showing for how many hours the unit has been used, this meter provides useful information for regular inspection, maintenance and servicing involving the cleaning and replacement of the inside parts, etc. When the MENU/REC LOCK switch is set to MENU, the hour meter will appear on the TV monitor together with the date and time settings.



Menu Screen 1

```
(TIME ADJUST)      P1

01- 1-94 SAT
 0:00:00

(REC LOCK)
MODE     OFF

(HOUR METER)
  00000H
```

The regular screen is restored when the MENU/REC LOCK switch is set to OFF.

Recording check

When the REW button is pressed during recording, the tape runs temporarily in the reverse direction, and the recorded section is played back. This function can be used to check the daily operation of the equipment in the system.

REW

◀◀

Restoration-of-power-after-failure recording

When a power failure has occurred during recording, the unit automatically starts recording if the power is restored within approximately one week.
- When the power fails, the tape "losing" safety protection function is activated to protect the video heads and video tape.

Before power is restored	After power is restored
• Stop, play, fast forward	Stop mode is established.
• Recording	Recording mode is established.
• Auto rewind • Auto rewind during auto repeat recording	Unit is returned to the mode applying before the power failed.
• REC/PAUSE in the EVENT mode	Recording and REC/PAUSE are repeated.

- If the power is restored more than one week after it failed, the unit is automatically set to the EXT REC mode and recording commences in the 24H mode. However, unless REC T-MODE on menu screen 3 has been set to OFF, recording will commence in the time mode set.

Note:
Once the recording mode is established, recording cannot be released until REC LOCK on Menu Screen 1 is set OFF.

Timer Recording

There are two methods of timer recording: one uses the internal timer and the other uses an external timer.

Internal timer recording

Start time and stop time

Bear in mind the following points when setting these times.

- **When the stop time is set later than the start time:**
  Recording will commence at the start time on the day concerned and stop at the end time on the same day.

  Example: 8:30 < 17:00

- **When the start time is set later than the stop time or the start time and stop time for weekly recording (weekly timer) are the same:**
  Recording starts at the start time on the day concerned and ends at the stop time on the following day.

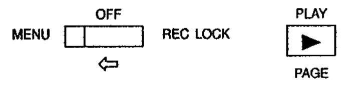
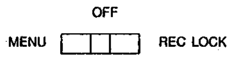
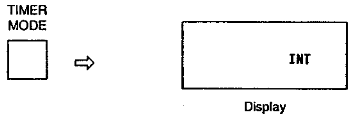
  Example: 17:00 < 8:30

- **When the start time and stop time are the same (for weekly recording):**
  Recording starts at 8:30 on the day concerned and ends at 8:30 on the following day.

  Example: 8:30 = 8:30
  To record for an entire day, set the start time and stop time to 00:00.

- Weekly recording (weekly timer) can be set by the day of the week.
- When (INTERNAL TIMER REC) on Menu Screen 4 is set to OFF for both the weekly timer and daily recording (daily timer), nothing appears for the start or stop time. Timer recording is considered not to be set.

Internal timer recording operation

Step	Operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Check that the TV monitor shows the correct present time.	25- 6-94 24H 4:13:08
3	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button so that the INTERNAL TIMER REC timer setting screen appears on the TV monitor. 	Menu Screen 4 (INTERNAL TIMER REC) P4 (TIMER) START STOP SUN OFF MON OFF TUE OFF WED OFF THU OFF FRI OFF SAT OFF DLY OFF
4	Set the operation times of the internal timer. • For details on the settings, refer to the sections on "Daily timer" or "Weekly timer." (See page E-20 to 21)	
5	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored. 	25- 6-94 24H 4:15:23
6	Press the TIMER MODE (REC MODE) button so that INT lights on the display. (The internal timer lamp also lights.)  When a cassette with a broken out tab has been inserted, the internal timer lamp flashes, and INT on the display also flashes. When the recording time arrives, nothing will be recorded.	

VTR operations after the settings

- The unit's power is turned off, and even if other buttons are pressed, their operations are not accepted.
- When the start time and stop time have not been set, INT flashes on the display.

Releasing the internal timer mode

Press the TIMER MODE (REC MODE) button to clear INT on the display.

Note:
- Since it takes some moments for recording to start, set the start time for timer recording one minute earlier.

Daily Recording (Daily Timer)/Weekly Recording (Weekly Timer)

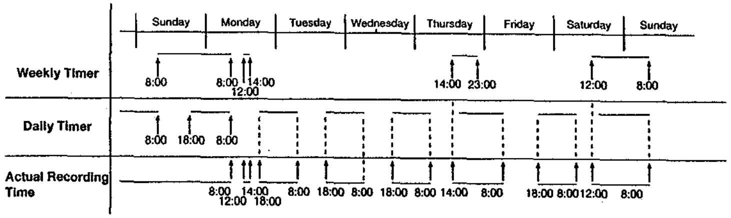
Step	Selection and operation When recording from 8:30 to 12:00 from Sunday through Thursday and from 9:00 to 12:00 on Fridays and Saturdays	TV monitor display
1	Check that OFF or ON for Sunday (SUN) is flashing. If the setting is OFF, press the set (+, –) buttons to display ON. REV ADV ◀II FWD ADV II▶ – SET +	Menu Screen 4 (INTERNAL TIMER REC) P4 (TIMER) START STOP SUN OFF MON OFF
2	When the shift (>) button is pressed, the setting moves to the start time and the "hour" digits flash. PAUSE/STILL II >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 0:00 0:00 MON OFF
3	Press the set (+, –) buttons to display "8." REV ADV ◀II FWD ADV II▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:00 0:00 MON OFF
4	When the shift (>) button is pressed, the "minutes" digits flash. PAUSE/STILL II >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:00 0:00 MON OFF
5	Press the set (+, –) buttons to display "30." REV ADV ◀II FWD ADV II▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 0:00 MON OFF
6	When the shift (>) button is pressed, the "hour" digits flash. PAUSE/STILL II >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 0:00 MON OFF
7	Press the set (+, –) buttons to display "12." REV ADV ◀II FWD ADV II▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 12:00 MON OFF

Step	Selection and operation	
8	When the shift (>) button is pressed, the "minutes" digits flash. PAUSE/STILL II >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 12:00 MON OFF
9	Press the set (+, –) buttons to display "00." REV ADV ◀II FWD ADV II▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 12:00 MON OFF
10	Following the same procedure in steps 1 to 9, display the start time of "8:30" and stop time of "12:00" from Monday (MON) through Thursday (THU). Following the above procedure, set the times for Friday (FRI) and Saturday (SAT) as well. In this way, the timer operation times have been set for each day of the week. The settings for daily recording (daily timer) are also performed following the same steps 1 to 9.	

- When daily recording and recording by day of the week are to be conducted together, the timer recording operations will be as shown below when the time settings are as follows.

```
(INTERNAL TIMER REC)  P4
 (TIMER)  START   STOP
SUN ON     8:00    8:00
MON ON    12:00   14:00
TUE OFF
WED OFF
THU ON    14:00   23:00
FRI OFF
SAT ON    12:00    8:00
DLY ON    18:00    8:00
```

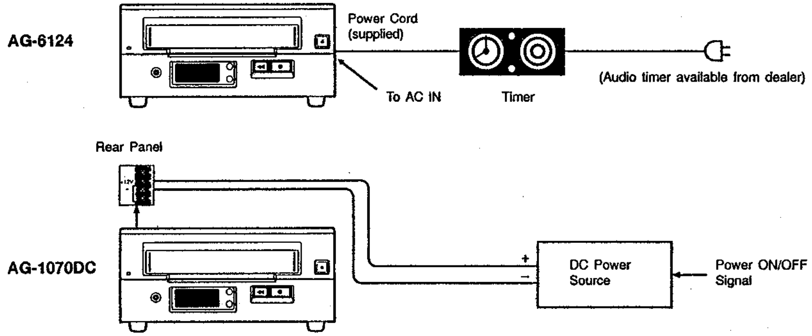
The setting shown on the screen at the left translates into the weekly and daily timer recording combinations shown below which, in turn, means that the actual recording time on the tape is shown at the bottom.



- The day of the week time settings are displayed, enabling the settings to be checked for each day of the week.
- Proceed with the setting with due consideration given to the total recording time since a 180-minute tape is long enough to provide recording for up to 24 hours only.

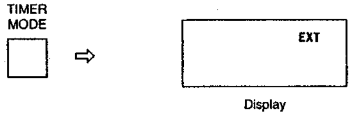
External Timer Recording

The unit can be made to record using an external timer to turn on its power.



Caution:
When being powered by the car battery, wire the +12 V power line using a 5 A fuse.

External timer recording operations

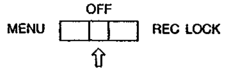
Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Press the TIMER MODE (REC MODE) button so that EXT lights on the display. At the set time, power is supplied from the external timer and the unit is set to the recording mode.  	

- If the video cassette tape has not been inserted or if its accidental erasure prevention tab has been broken, EXT will flash on the display, and external timer recording cannot be conducted.
- Since it takes some moments for recording to start, set the start time for timer recording one minute earlier.

Auto Repeat Recording/Auto Rewinding

Auto repeat recording: This function automatically rewinds the cassette tape when its end is detected in the recording mode, and it repeats recording from the start of the tape.

Auto rewinding: This function automatically rewinds the tape to the start when the tape end is detected in the recording mode.

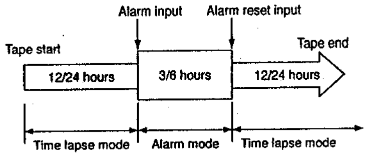
Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display Menu Screen 3 on the TV monitor. OFF MENU REC LOCK PLAY PAGE	Menu Screen 3 (DISPLAY) P3 POSITION L-UPPER (REC MODE) TAPE IN STOP TAPE END STOP REC T-MODE OFF (VIDEO MODE) MODE AUTO SHARPNESS OFF 12/24H PLAY ON
3	Press the shift (V) button to move the flashing to TAPE END. Press the set (+ or –) button to display REPEAT for auto repeat recording or REW for auto rewinding. STOP REV ADV FWD ADV V - SET +	(DISPLAY) P3 POSITION L-UPPER (REC MODE) TAPE IN STOP TAPE END REPEAT REC T-MODE OFF
4	"↻" lights on the display. • If auto rewinding has been selected, "↻" is cleared.	
5	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.  	25- 6-94 24H 4:15:23

Notes of operation
- When auto repeat recording is to be performed, do not neglect the routine inspections. Since the image deteriorates when the same tape is used over and over again for auto repeat recording, replace the tape with a new one after about 50 recordings.
- Alarm signals are not accepted during auto rewinding, and so alarm recording is not performed.
- If an alarm signal is supplied during auto repeat recording, the alarm recording mode is established. If the tape then reaches its end, auto repeat recording is performed but alarm recording is released.

Alarm Recording (Emergency Recording)

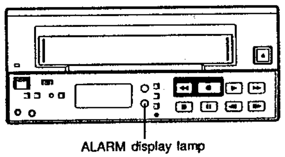
When an emergency occurs at the monitoring site during prolonged monitoring and recording, the alarm function is automatically triggered, and alarm recording is performed.

Principle of alarm recording

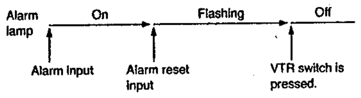

Alarm input
Alarm reset input
Tape start
Tape end
12/24 hours
3/6 hours
12/24 hours
Time lapse mode
Alarm mode
Time lapse mode

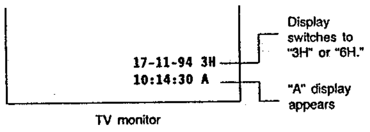
- When an alarm signal is supplied by an alarm sensor (door or intercom switch, etc.) during recording in a time lapse mode, the recording speed is switched to the 3- or 6-hour mode and the details of the state of emergency are faithfully recorded.

Alarm and display methods during alarm recording

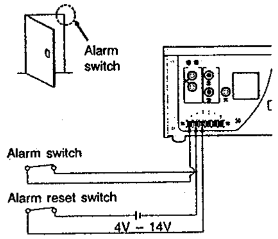

ALARM display lamp

- When an alarm signal is supplied, the alarm display lamp functions as follows.


Alarm lamp
On
Flashing
Off
Alarm input
Alarm reset input
VTR switch is pressed.

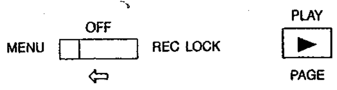
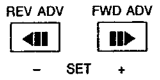
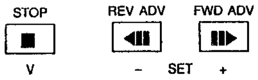

17-11-94 3H
10:14:30 A
Display switches to "3H" or "6H."
"A" display appears
TV monitor

Connecting the alarm input connector


Alarm switch
Alarm switch
Alarm reset switch
4V – 14V

- Alarm recording starts when the alarm switch is set on. When the alarm reset switch is set ON after recording has started, alarm recording is released and operation is returned to the original time lapse recording mode.
- Alarm recording can be released by pressing the STOP button during alarm recording. However, it cannot be released even by pressing the STOP button if the MENU/REC LOCK switch is at REC LOCK or INT is lighted on the display.
- Alarm recording can be automatically reset without supplying the alarm reset input signal. The reset time can be set for 0.5, 1.0, 1.5, 2.0, 2.5 or 3.0 minutes.
- Another option is alarm recording only while the alarm input signal is supplied.
- Alarm recording is also possible as far as the end of the tape.

Alarm recording operation

Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display the alarm recording setting screen (Menu Screen 2) on the TV monitor.  OFF MENU REC LOCK PLAY PAGE	(ALARM) P2 MODE OFF T-MODE 3H DURATION 0.5MIN (RECALL) - - -
3	Press the set (+ or –) button to display ALARM for MODE.  REV ADV FWD ADV - SET +	(ALARM) P2 MODE ALARM T-MODE 3H DURATION 0.5MIN (RECALL) - -
4	Press the shift (V) button to move the flashing to T-MODE. Press the set (+ or –) button to set the time mode.  STOP REV ADV FWD ADV V - SET +	(ALARM) P2 MODE ALARM T-MODE 6H DURATION 0.5MIN (RECALL) - -
5	Press the shift (V) button to move the flashing to DURATION. Press the set (+ or –) button to set the recording duration. STOP REV ADV FWD ADV V - SET +	(ALARM) P2 MODE ALARM T-MODE 6H DURATION 0.5MIN (RECALL) - -
6	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.	25- 6-94 24H 4:15:23
7	Press the REC button. If an alarm input signal is subsequently supplied, the time mode set by T-MODE changes to 6H, and alarm recording continues until the alarm is released.	

- If TAPE END on Menu Screen 3 has been set to REPEAT, the auto repeat recording mode is established when the tape comes to the end.
- With emergency recording, set the unit to the POWER OFF or STOP mode.

Event Recording

Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display the alarm recording setting screen (Menu Screen 2) on the TV monitor. OFF MENU ☐ REC LOCK ⇦ PLAY ▶ PAGE	(ALARM) P2 MODE OFF T-MODE 3H DURATION 0.5MIN (RECALL) - - -
3	Press the set (+ or –) button to display EVENT for MODE. REV ADV ◀II FWD ADV II▶ – SET +	(ALARM) P2 MODE EVENT T-MODE 3H DURATION 0.5MIN (RECALL) - -
4	Press the shift (V) button to move the flashing to T-MODE, and press the set (+ or –) button to set the time mode. STOP ■ V REV ADV ◀II FWD ADV II▶ – SET +	(ALARM) P2 MODE EVENT T-MODE 6H DURATION 0.5MIN (RECALL) - -
5	Press the shift (V) button to move the flashing to DURATION. Press the set (+ or –) button to set the recording duration. STOP ■ V REV ADV ◀II FWD ADV II▶ – SET +	(ALARM) P2 MODE EVENT T-MODE 6H DURATION 0.5MIN (RECALL) - -
6	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.	
7	If an alarm input signal is subsequently supplied, the time mode set by T-MODE changes to 6H, and event recording continues until the alarm is released. When event recording is released, the REC/PAUSE mode is established and the next alarm input signal is awaited.	

- Depending on the time mode setting, the unit is repeatedly set to the recording (REC) and REC/PAUSE modes as shown in the table below.

Time mode	REC	REC/PAUSE
3H	6 sec	3 min
6H	6 sec	1 min
12H	45 sec	1 min
24H	45 sec	1 min

(Durations given are approximations.)

- Proceed with the settings on the menu in the STOP or EJECT mode.
- There is some disturbance in the pictures at the joins.
- If the MENU/REC LOCK switch is set to "REC LOCK" or REC LOCK on the Menu 2 is set to "ON" in the EVENT setting, no operations can be performed during recording or during REC/PAUSE.

Alarm Recall

The time when the alarm signal was input can be ascertained on the TV monitor by checking the alarm input time in the RECALL item on Menu Screen 2.

Step	Selection and operation	TV monitor display
1	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display the alarm recording setting screen (Menu Screen 2) on the TV monitor. OFF MENU ☐ REC LOCK ⇦ PLAY ▶ PAGE	(ALARM) P2 MODE ALARM T-MODE 3H DURATION 0.5MIN (RECALL) 01-10-95 20:19 14-09-95 12:05 30-08-95 08:40 25-06-95 04:14 05-05-95 09:25
2	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.	19-12-95 24H 4:15:23

- The alarm recall function stores up to 6 alarm input times in the memory and displays them on the screen. If there have been more than 6 inputs, they will be deleted from the screen in sequence starting with the oldest data.
- When the RESET button is pressed while Menu Screen 2 is on the display, the alarm recall memory can be cleared.

Playback Procedure

Before operating the unit, check that the internal/external timer recording displays (INT/EXT) have been cleared from the display. (If INT or EXT is displayed, use the TIMER MODE button to clear it.)

❶ Switch on the power to the unit and TV monitor.

❷ Insert the recorded cassette tape into the unit.

❸ Select the time mode.

TIME MODE ☐

❹ Press the PLAY button.

PLAY ▶

Notes on operation

1. Bear in mind the following points when playing back parts of a tape recorded in a time lapse (12-/24-hour) mode.
   - When the tape is played back in the same mode, noise resembling dropouts will appear on the screen: this is not indicative of malfunctioning.
   - The picture may oscillate in the vertical direction: this is not indicative of malfunctioning.
   - When a tape is played back in the same time mode, the picture may shake slightly sideways: this is not indicative of malfunctioning.
   - Dancing can be minimized when "12/24H PLAY" on Menu 3 is set to ON all the times.
2. Bear in mind the following points when playing back parts of a tape recorded in a VHS mode (3 or 6 hours).
   - Set "12/24H PLAY" on Menu Screen 3 to OFF at all times. If "12/24H PLAY" is set to OFF, picture oscillating can be alleviated by the TV monitor.
   - When a tape is played back in a time lapse mode, slight noise may appear at the top and bottom of the screen: this is not indicative of malfunctioning.
   - When a 6-hour-mode-recorded tape is played back only in the normal 6-hour mode, the picture will be viewed in colour. If it is played back in other modes, black and white pictures can be played back. But it is not a sign of malfunction.
3. When noise has occurred during still-picture playback, press the FWD ADV button to play it out.
4. Bear in mind that if the power cable is disconnected and then re-connected or if the power has been restored after it has failed when the tape was played with EXT indicated on the display by the TIMER MODE button, the unit will automatically be set from playback to the recording mode.
5. When the PAUSE/STILL button is pressed during playback, the unit is set to the pause mode, and a still picture will appear on the monitor screen. To release this state, press the PAUSE/STILL button again or press the PLAY button. If the unit is kept in the pause mode for more than 5 minutes, it will be set to the stop mode.
6. If the horizontal AFC on the TV monitor is too long or when a video camera with random interlace scanning has been used, the top area of the TV monitor may be distorted: this is not indicative of malfunctioning.

Tracking

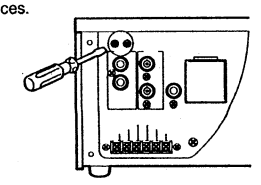
When noise such as that shown below appears on the playback image in the 3- or 6-hour time mode, press the tracking (+ or –) button to minimize the noise.

TRACKING
– ☐ ☐ +

- For the tracking default setting, press the "+" and "–" buttons together (in the 3- or 6-hour time mode only).
- In the 12- or 24-hour mode, press the "+" or "–" button to adjust the tracking.

Vertical hold adjustment

If the image shakes slightly in the vertical direction during still-picture playback, use a screwdriver or some other implement to turn and adjust the vertical hold control on the rear panel. Do not touch it under normal circumstances.



- If the TV monitor has a vertical hold control, adjust that control also.

Routine & Regular Inspection Request

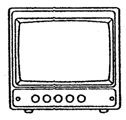
This unit is designed to withstand many hours of operation. Nevertheless, it is recommended that routine inspections be conducted to help ensure trouble-free operation.

CAUTION
Do not forget to conduct the routine inspection with auto repeat recording.

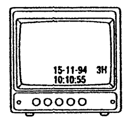
Routine inspection procedure

❶ Set the power switches on the unit, video cameras, TV monitor and other equipment connected in the monitoring system to the ON position.

❷ Is the picture on the TV monitor OK?



❸ Are the date and time displayed on the TV monitor correct?



❹ Rewind the cassette tape, which was recorded on the previous day, by an amount equivalent to a count on the counter of several figures.

REW ◀◀

❺ Press the TIME MODE button to set to the mode to 3H (3 hours).

TIME MODE ☐ 3

Display

❻ Press the PLAY button. The tape is played back by an amount equivalent to a count on the counter of several figures.

PLAY ▶

❼ Is the playback image OK?

❽ Is there any problem with the recorded date and time?

❾ Press the REC button.

REC ●

❿ Check the playback images which were recorded in the 3-hour time mode.

⓫ Upon completion of all the checks, set the unit to the desired mode.

Action taken after routine inspections

In the unlikely event of a problem with the unit, turn off the power, take hold of the power plug and disconnect it from the power outlet, and consult with the dealer from whom the unit was purchased.

Regular inspections recommended

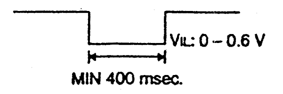
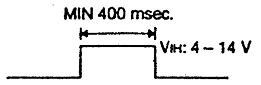
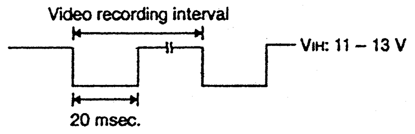
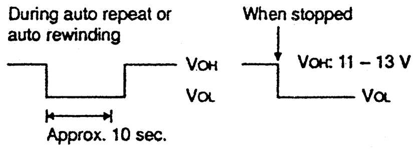
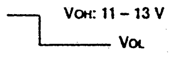
This unit has an hour meter which shows for how many hours the VTR has been used. When the MENU/REC LOCK switch is set to MENU, Menu Screen 1 appears on the TV monitor, and the hour meter can be checked. Use the hour meter as a rough guideline to cleaning or replacing the parts inside the unit. For further details, consult with your dealer.

OFF
MENU ☐ REC LOCK ⇨
←

(HOUR METER)
00150H

TV monitor

Input/Output Terminal Signal Level

Terminal	Signal Level	Note
Alarm Input/Summer Time Setting Input	 VIL: 0 – 0.6 V MIN 400 msec.	LOW Input
Alarm Reset Input	 MIN 400 msec. VIH: 4 – 14 V	HIGH Input
Camera Switching Output	 Video recording interval VIH: 11 – 13 V 20 msec.	VOH = 11–13V (5.6kΩ) VOL = 0–0.6V (max. 3 mA)
Tape end output	 During auto repeat or auto rewinding When stopped VOH VOL VOH: 11 – 13 V VOL Approx. 10 sec.	VOH = 11–13V (4.7kΩ) VOL = 0–0.6V (max. 3 mA)
Warning output	 VOH: 11 – 13 V VOL	VOH = 11–13V (4.7kΩ) VOL = 0–0.6V (max. 3 mA)

SCHEMATIC DIAGRAMS and PARTS LIST COMPARISON CHART.

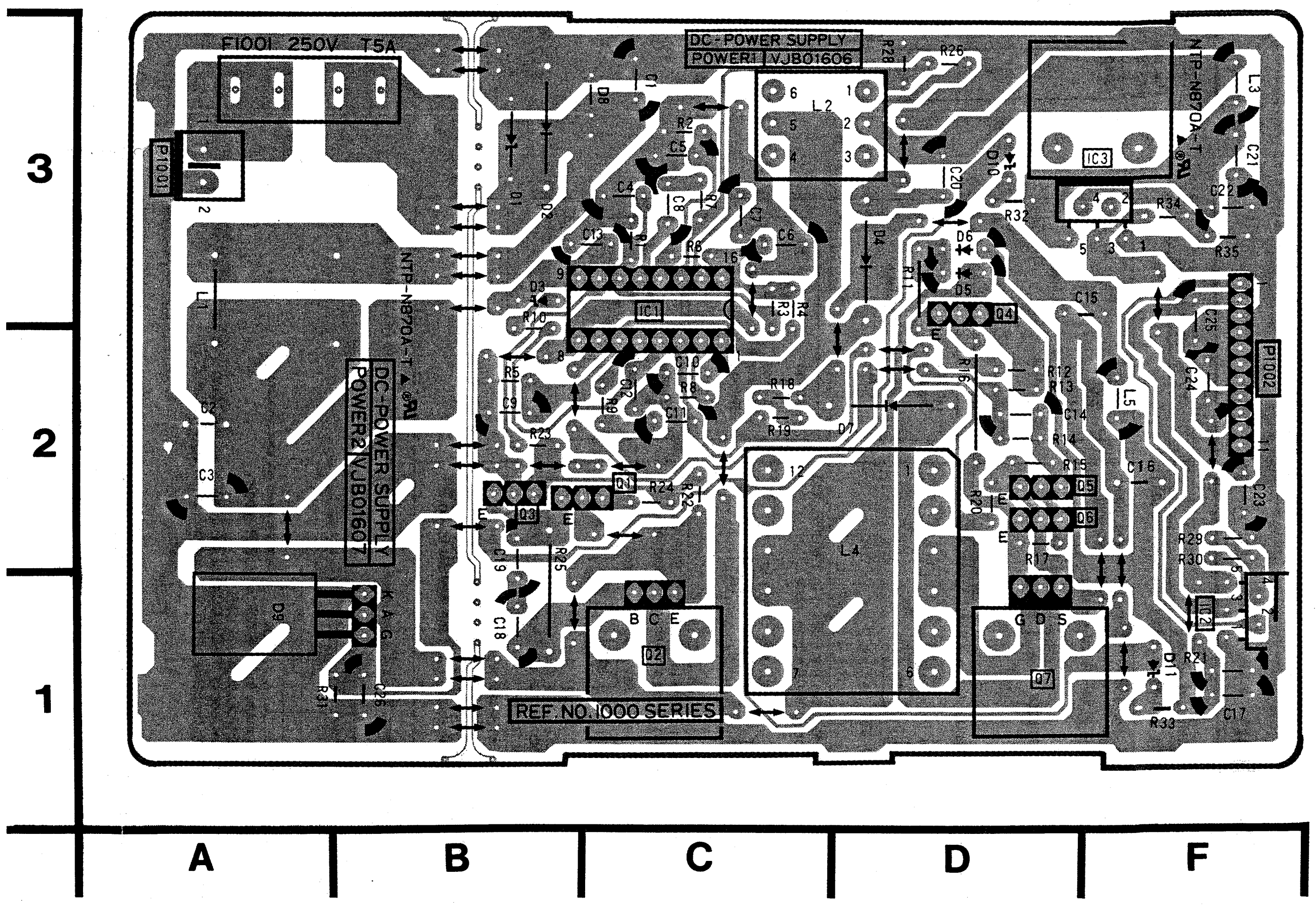
Please Refer to page for AG-6124E Service Manual and AG-1070DCE Simplified Service Manual.

PC BOARD	PARTS NO. for AG-1070DCE		Service Manual AG-6124E		Simplified Service Manual AG-1070DCE	
			SCM-PAGE	PARTS-PAGE	SCM-PAGE	PARTS-PAGE
MAIN	VEP06195H	VIDEO 1	SCM-2	PARTS-12	SAME AS AG-6124E	PARTS-9
		VIDEO 2	SCM-2	PARTS-12		PARTS-9
		SYSTEM CONTROL	SCM-3	PARTS-12		PARTS-9
		MOTOR DRIVE	SCM-4	PARTS-12		PARTS-9
		AUDIO MAIN	SCM-4	PARTS-12		PARTS-9
		INTER FACE	SCM-12	PARTS-12		PARTS-9
FRONT	VEP06914C		SCM-8	PARTS-11	SAME AS AG-6124E	
FRONT JACK	VEP06916C		SCM-8	PARTS-11	SAME AS AG-6124E	
REAR JACK	VEP04428A		SCM-9	PARTS-10	SAME AS AG-6124E	
BUCK UP SUB	VEP00T75A		SCM-9	PARTS-8	SAME AS AG-6124E	
AUDIO	VEP04435A		SCM-5	PARTS-10	SAME AS AG-6124E	
VIDEO SUB	VEP03A77C		SCM-3	PARTS-9	SCM-3	PARTS-8
HEAD AMP	VEP05193A		SCM-6	PARTS-11	SAME AS AG-6124E	
POWER 1	VEP01606A		SCM-10	PARTS-8	SCM1 / 2	PARTS-7
POWER 2	VEP01607A		SCM-10	PARTS-8	SCM1 / 2	PARTS-8
MECHA CONNECTION	VEP00S63C		———	PARTS-17	SAME AS AG-6124E	
Chassis Parts Section(1)			PARTS-1	PARTS-2	PARTS-1	PARTS-2
Casing Pasrts Section(3)			PARTS-4	PARTS-4	PARTS-3	PARTS-4
Packing Parts Section(4)			PARTS-6	PARTS-4	PARTS-5	PARTS-4

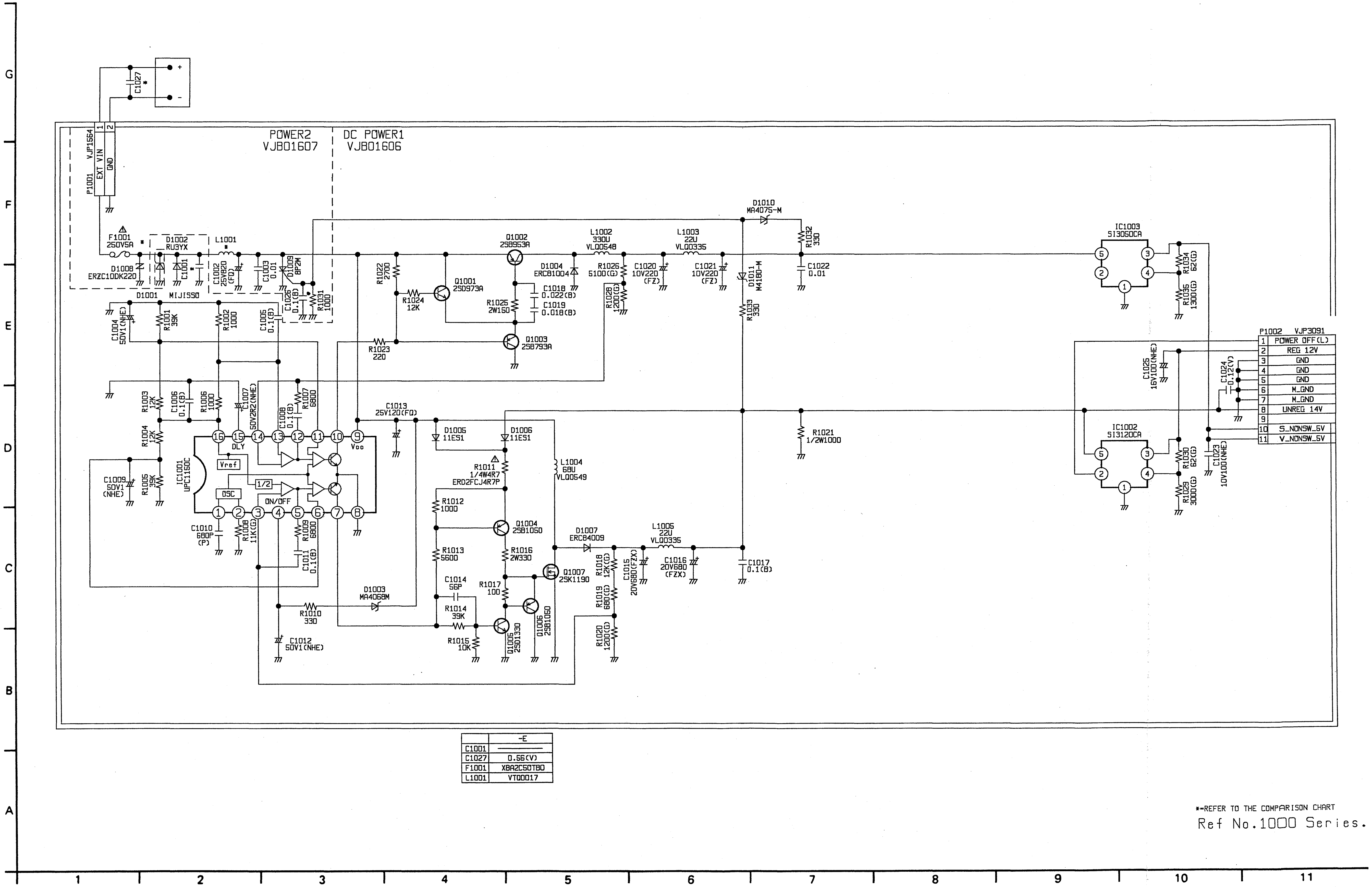
DC POWER C.B.A.

DC POWER			
FOIL SIDE			
TRANSISTER		INTEGRATED CIRCUITS	
Q1001	C-2	IC1001	C-3
Q1002	C-1	IC1002	F-1
Q1003	B-2	IC1003	D-3
Q1004	D-3	CONNECTOR	
Q1005	D-2		
Q1006	D-2		
Q1007	D-1	P1001	A-3
		P1002	F-2

ADDRES INFORMATION


F1001 250V T5A
DC-POWER SUPPLY
POWER1 VJB01606
DC-POWER SUPPLY
POWER2 VJB01607
NTF-NB70A-T
REF. NO. 1000 SERIES
P1001
P1002
IC1
IC3
L1
L2
L3
L4
L5
Q1
Q2
Q3
Q4
Q5
Q6
Q7
3
2
1
A
B
C
D
F

DC POWER SCHEMATIC DIAGRAM

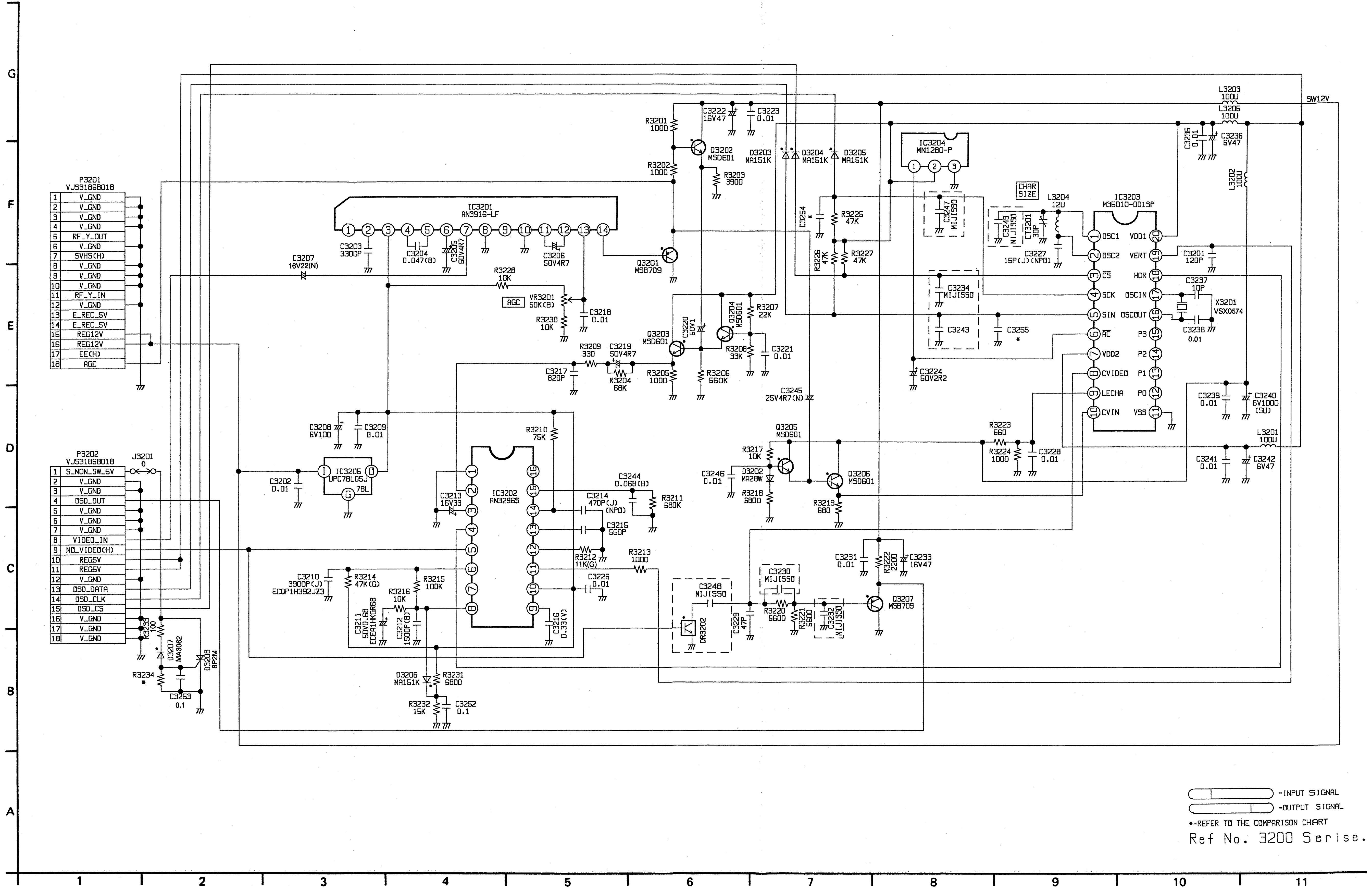

G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
C1027 *
+
-
P1001 VJP1564
1 EXT VIN
2 GND
POWER2
VJB01607
DC POWER1
VJB01606
F1001 250V5A
D1008 ERZC10DK220
D1002 RU3YX
C1001 *
L1001 *
C1002 25V820 (FQ)
C1003 0.01
D1009 8P2M
C1026 0.1(B)
R1031 1000
D1001 MIJISS0
C1004 50V1(NHE)
R1001 39K
R1002 1000
C1005 0.1(B)
R1003 12K
C1006 0.1(B)
R1006 1000
C1007 50V2R2(NHE)
C1008 0.1(B)
R1007 6800
R1004 12K
C1009 50V1 (NHE)
R1005 39K
IC1001 UPC1150C
Vref
OSC
1/2
ON/OFF
DLY
Vcc
C1010 680P (P)
R1008 11K(G)
R1009 6800
C1011 0.1(B)
R1010 330
C1012 50V1(NHE)
D1003 MA4068M
R1022 2700
R1024 12K
Q1001 2SD973A
Q1002 2SB953A
R1025 2W150
C1018 0.022(B)
C1019 0.018(B)
R1023 220
Q1003 2SB793A
D1004 ERC81004
L1002 330U VLQ0548
R1026 5100(G)
R1028 1200(G)
C1020 10V220 (FZ)
L1003 22U VLQ0335
C1021 10V220 (FZ)
D1010 MA4075-M
R1032 330
C1022 0.01
D1011 M4180-M
R1033 330
C1013 25V120(FQ)
D1005 11ES1
D1006 11ES1
R1011 1/4W4R7 ERD2FCJ4R7P
L1004 68U VLQ0549
R1012 1000
Q1004 2SB1050
R1013 5600
R1016 2W330
C1014 56P
R1017 100
R1014 39K
R1015 10K
Q1005 2SD1330
Q1006 2SB1050
Q1007 2SK1190
D1007 ERC84009
R1018 12K(G)
R1019 680(G)
R1020 1200(G)
C1015 20V680(FZX)
L1005 22U VLQ0335
C1016 20V680 (FZX)
C1017 0.1(B)
R1021 1/2W1000
IC1003 SI3050CA
R1034 62(G)
R1035 1300(G)
IC1002 SI3120CA
R1030 62(G)
R1029 3000(G)
C1025 16V100(NHE)
C1024 0.12(V)
C1023 10V100(NHE)
P1002 VJP3091
1 POWER OFF(L)
2 REG 12V
3 GND
4 GND
5 GND
6 M_GND
7 M_GND
8 UNREG 14V
9
10 S_NONSW_5V
11 V_NONSW_5V

	-E
C1001	———
C1027	0.56(V)
F1001	XBA2C50TB0
L1001	VTQ0017

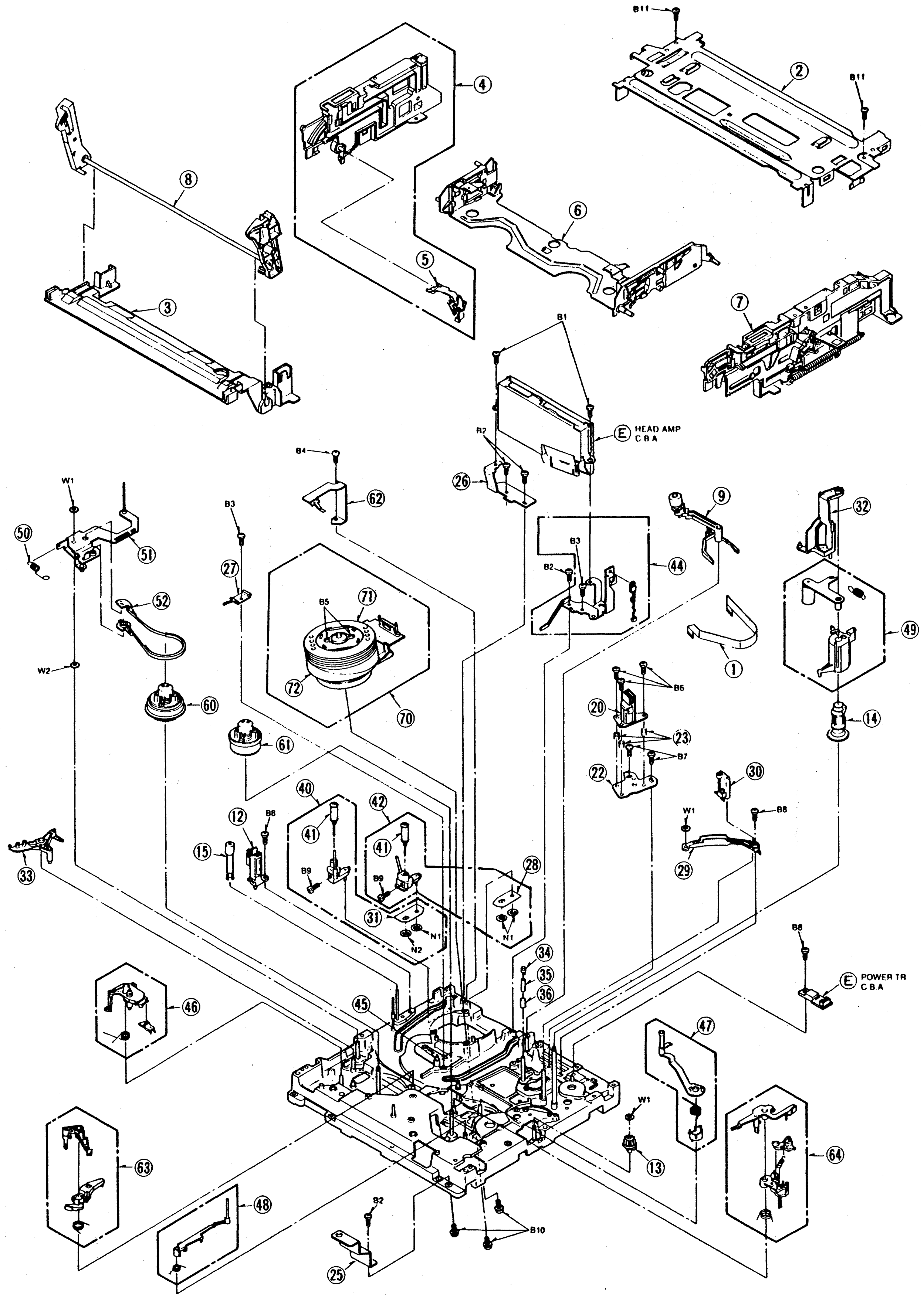
*=REFER TO THE COMPARISON CHART

Ref No.1000 Series.

VIDEO SUB SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
P3201
VJS3186B018
1 V_GND
2 V_GND
3 V_GND
4 V_GND
5 RF_Y_OUT
6 V_GND
7 SVHS(H)
8 V_GND
9 V_GND
10 V_GND
11 RF_Y_IN
12 V_GND
13 E_REC_5V
14 E_REC_5V
15 REG12V
16 REG12V
17 EE(H)
18 AGC
P3202
VJS3186B018
1 S_NON_SW_5V
2 V_GND
3 V_GND
4 OSD_OUT
5 V_GND
6 V_GND
7 V_GND
8 VIDEO_IN
9 NO_VIDEO(H)
10 REG5V
11 REG5V
12 V_GND
13 OSD_DATA
14 OSD_CLK
15 OSD_CS
16 V_GND
17 V_GND
18 V_GND
J3201
0
IC3201
AN3916-LF
C3203
3300P
C3204
0.047(B)
C3205
50V4R7
C3206
50V4R7
C3207
16V22(N)
R3228
10K
AGC
VR3201
50K(B)
C3218
0.01
R3230
10K
R3209
330
C3219
50V4R7
R3204
68K
C3217
820P
R3201
1000
R3202
1000
Q3202
MSD601
R3203
3900
Q3201
MSB709
C3222
16V47
C3223
0.01
D3203
MA151K
D3204
MA151K
D3205
MA151K
Q3203
MSD601
C3220
50V1
Q3204
MSD601
R3207
22K
R3208
33K
C3221
0.01
R3205
1000
R3206
560K
C3245
25V4R7(N)
C3254
*
R3225
47K
R3226
47K
R3227
47K
IC3204
MN1280-P
C3247
MIJI550
C3249
MIJI550
C3201
30P
CHAR SIZE
L3204
12U
C3227
15P(J)(NPO)
C3234
MIJI550
C3243
C3255
*
C3224
50V2R2
IC3203
M35010-001SP
OSC1
OSC2
CS
SCK
SIN
AC
VDD2
CVIDEO
LECHA
CVIN
VDD1
VERT
HOR
OSCIN
OSCOUT
P3
P2
P1
P0
VSS
C3201
120P
C3237
10P
X3201
VSX0674
C3238
0.01
L3203
100U
L3205
100U
SW12V
C3235
0.01
C3236
6V47
L3202
100U
C3239
0.01
C3240
6V1000
(SU)
L3201
100U
C3241
0.01
C3242
6V47
C3208
6V100
C3209
0.01
C3202
0.01
IC3205
UPC78L05J
78L
I
O
G
IC3202
AN3296S
R3210
75K
C3213
16V33
C3244
0.068(B)
R3211
680K
C3214
470P(J)
(NPO)
C3215
560P
R3212
11K(G)
R3213
1000
C3226
0.01
C3216
0.33(V)
C3210
3900P(J)
ECQP1H392JZ3
R3214
47K(G)
R3215
100K
R3216
10K
C3211
50V0.68
ECEA1HKGR68
C3212
1500P(B)
D3206
MA151K
R3231
6800
R3232
15K
C3252
0.1
R3233
100
D3207
MA3062
D3208
8P2M
R3234
*
C3253
0.1
Q3205
MSD601
R3217
10K
C3246
0.01
D3202
MA28W
R3218
6800
Q3206
MSD601
R3219
680
R3223
560
R3224
1000
C3228
0.01
C3231
0.01
R3222
2200
C3233
16V47
C3248
MIJI550
DR3202
C3229
47P
C3230
MIJI550
R3220
5600
R3221
5600
C3232
MIJI550
Q3207
MSB709
=INPUT SIGNAL
=OUTPUT SIGNAL
*=REFER TO THE COMPARISON CHART
Ref No. 3200 Serise.

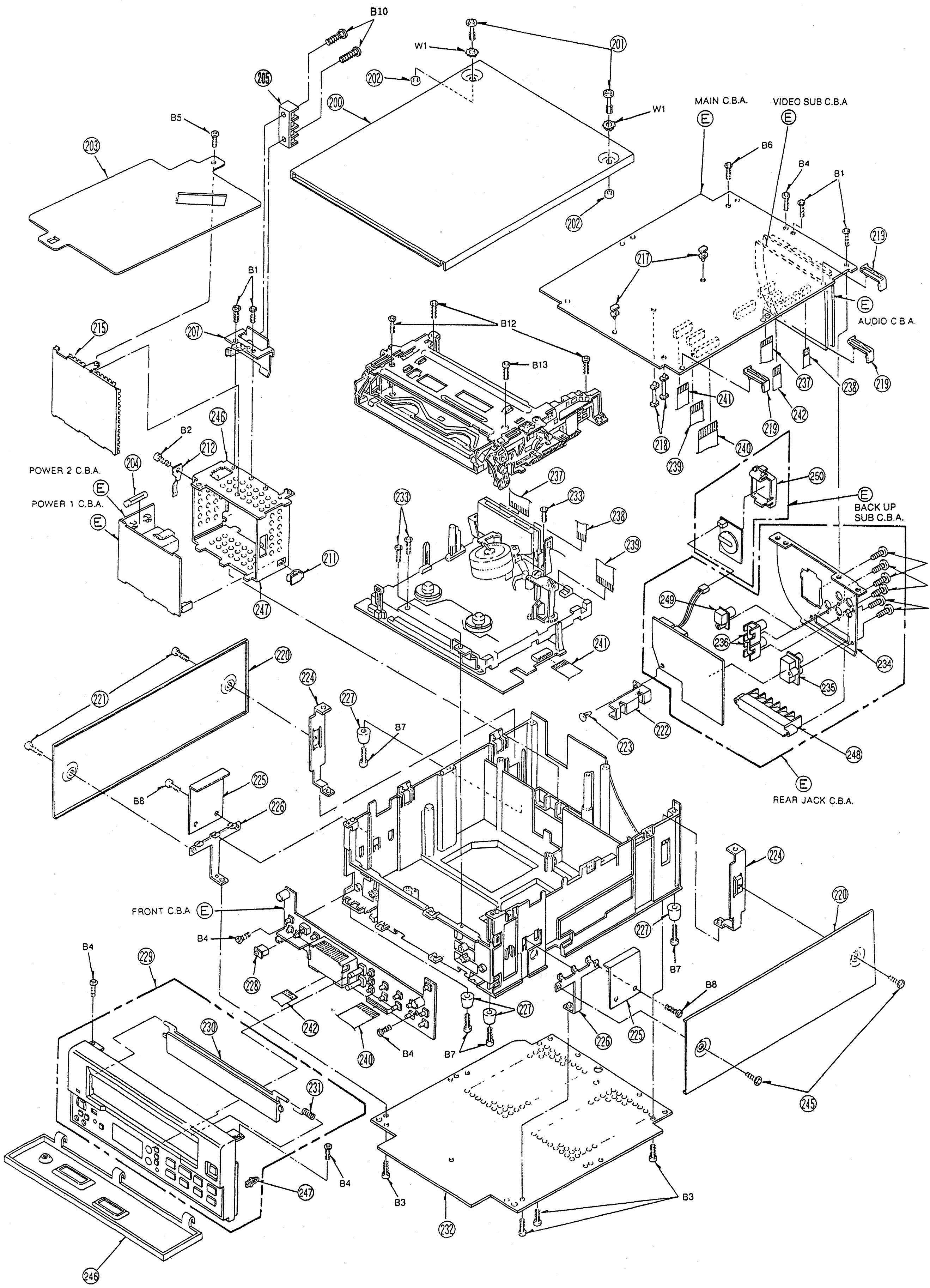
❶ CHASSIS PARTS SECTION (1)



Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VWJ0653	FLEXIBLE CABLE (6P)	1	
2(1)	VMA8644	TOP PLATE	1	
3(1)	VMA8787	CASSETTE GUIDE	1	
4(1)	VXA4660	SIDE PLATE (L) UNIT	1	
5(1)	VXL2250	OPENER LEVER UNIT	1	
6(1)	VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)	VXA4806	SIDE PLATE (R) UNIT	1	
8(1)	VXP1339	MAIN SHAFT UNIT	1	
9(1)	VXL2251	CLEANER ARM UNIT	1	
10(1)	VXP1366	CLEANER ROLLER UNIT	1	
12(1)	VBS0050	FE HEAD	1	
13(1)	VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)	VDG0886	PINCH CAM GEAR	1	
15(1)	VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)	VED0205	A/C HEAD (1) UNIT	1	
22(1)	VMA8624	A/C HEAD BASE	1	
23(1)	VMB2515	A/C HEAD SPRING	3	
25(1)	VMA8761	MOUNT ANGLE	1	
26(1)	VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)	VMC0917	EARTH SPRING	1	
28(1)	VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)	VMD2078	P5 STOPPER BASE	1	
30(1)	VXA4927	P5 POST STOPPER	1	
31(1)	VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)	VMD2101	OPENER PIECE	1	
33(1)	VML2776	TENSION SPRING ARM	1	
34(1)	VMX1544	P4 UPPER LIMITER	1	
35(1)	VMX2175	P4 SLEEVE	1	
36(1)	VMX2176	P4 LOWER LIMITER	1	
40(1)	VXA4982KIT	INCLIND BASE (S) UNIT	1	
41(1)	VXP1415	ROLLER POST (S)	1	
42(1)	VXA4984KIT	INCLIND BASE (T) UNIT	1	
44(1)	VXA4869	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)	VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)	VXL2310	REVIEW ARM UNIT	1	
47(1)	VXL2306	P5 ARM UNIT	1	
48(1)	VXL2243	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)	VXL2246	PINCH ARM UNIT	1	
50(1)	VMB2434	TENSION SPRING	1	
51(1)	VXL2309	TENSION ARM (1) UNIT	1	
52(1)	VXZ0310	TENSION BAND UNIT	1	
60(1)	VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)	VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)	VXS0114	EARTH PLATE	1	
63(1)	VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)	VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)	VEG1138	CYLINDER UNIT	1	
71(1)	VEH0656	UPPER CYLINDER UNIT	1	
72(1)	VJR0082	RT TERMINAL	1	
B1	VHD0773	SCREW	2	
B2	XTV26+6F	SCREW	4	
B3	XTV26+4F	SCREW	2	
B4	XTN3+6FFZ	SCREW	1	
B5	VHD0425	SCREW	2	
B6	VHD0762	SCREW	3	
B7	XTV26+6FZ	SCREW	2	
B8	XTV26+8F	SCREW	3	
B9	VHD0760	SCREW	2	
B10	VHD0342	SCREW	3	
N1	VHN0192	NUT	3	
N2	VHN0193	NUT	1	
W1	VMX2208	WASHER	3	
W2	XWGV26D5G	WASHER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

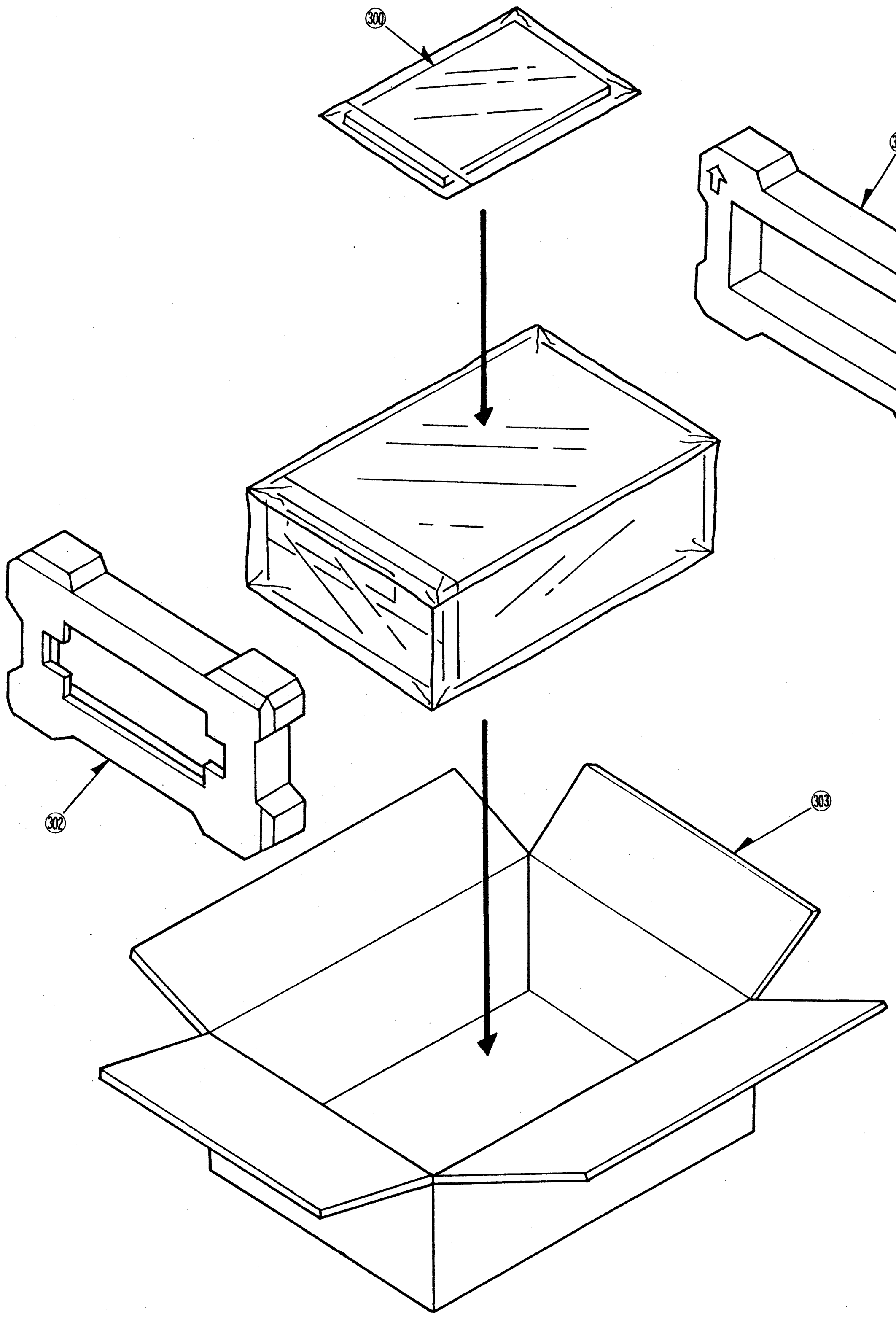
❸ CASING PARTS SECTION


B10
W1
201
202
205
200
203
B5
W1
MAIN C.B.A.
VIDEO SUB C.B.A
E
B6
B4
B1
219
217
AUDIO C.B.A.
215
B1
207
B12
B13
237
238
219
218
239
240
241
242
246
B2
212
204
POWER 2 C.B.A.
POWER 1 C.B.A.
233
237
238
239
250
BACK UP SUB C.B.A.
B9
B10
B9
211
247
249
236
234
241
235
248
222
223
REAR JACK C.B.A.
220
221
224
227
B7
225
226
B8
224
220
FRONT C.B.A
B4
229
228
227
B7
B8
230
242
240
B4
B7
226
225
231
247
B4
B3
232
B3
245
246

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
200(3)	VGM1045	TOP PANEL	1	
201(3)	VHD0222	SCREW	2	
202(3)	VMX2248	SPACER	2	
203(3)	VSC4044	SHIELD SEAT (B)	1	
204(3)	XBA2C50TB0	FUSE	1	<!>
205(3)	VJH0717	TERMINAL	1	
207(3)	VMP4436	POWER PLATE	1	
211(3)	VMC0357	TR HOLDER SPRING	1	
212(3)	VMC0525	EARTH SPRING	1	
215(3)	VSC3959	SHIELD PLATE	1	
217(3)	VKC0295	SPACER	2	
218(3)	VKC0422	SPACER	2	
219(3)	VKC0421	HINGE	3	
220(3)	VGM1046	SIDE PANEL (R)	1	
221(3)	VHD0305	SCREW	4	
222(3)	VJF1094	P.C.BOARD HOLDER	1	
223(3)	VJF0649	RIVET	1	
224(3)	VMP4218	EARTH ANGLE (B)	2	
225(3)	VSC4046	SHIELD SEAT (C)	2	
226(3)	VMP4217	EARTH ANGLE (A)	2	
227(3)	VKA0133	RUBBER FOOT	4	
228(3)	VGU5582	SLIDE SW SHEET	1	
229(3)	VYP5707	FRONT PANEL UNIT	1	
230(3)	VKF2127	BLINDER PANEL	1	
231(3)	VMB2521	BLINDER PANEL SPRING	1	
232(3)	VKU0390	BOTTOM PLATE	1	
233(3)	VHD0168	SCREW	3	
234(3)	VJH0733	REAR JACK PANEL	1	
235(3)	VJJ0323	RCA PIN JACK	1	
236(3)	VJS3154	BNC CONNECTOR	2	
237(3)	VWJ20AW470B0	FLEXIBLE CABLE	1	
238(3)	VWJ0785	FLEXIBLE CABLE	1	
239(3)	VWJ15AW510B0	FLEXIBLE CABLE	1	
240(3)	VWJ20AW385B0	FLEXIBLE CABLE	1	
241(3)	VWJ13AW200B0	FLEXIBLE CABLE	1	
242(3)	VWJ12AW610B0	FLEXIBLE CABLE	1	
243(3)	VSC3957	SHIELD CASE	1	
244(3)	VSC3958	SHIELD CASE	1	
245(3)	VGM1070	SIDE PANEL (L)	1	
246(3)	VKF2240	FRONT DOOR	1	
247(3)	VGQ1442	LATCH	1	
248(3)	VJH0735	TERMINAL UNIT	1	
249(3)	VJJ0322	RCA PIN JACK	1	
250(3)	VGQ3373	BATTERY COVER	1	
W1	XWC4BFY	WASHER	2	
B1	XTV3+6F	SCREW	4	
B2	XTV26+4F	SCREW	1	
B3	XTB3+10F	SCREW	4	
B4	XTV3+10GR	SCREW	6	
B5	XTV3+6FR	SCREW	1	
B6	XYE3+EF8FR	SCREW	1	
B7	XTV3+14J	SCREW	4	
B8	XTV3+6J	SCREW	2	
B9	XTV3+10GFZ	SCREW	4	
B10	XTV3+8FFZ	SCREW	2	
B11	XTV3+14FFZ	SCREW	1	
B12	XTV26+8FR	SCREW	3	
B13	XTV26+10F	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
300(4)	VQT5882	OPERATING INSTRUCTIONS	1	
301(4)	VPN3798	CUSHION (R)	1	
302(4)	VPN3173	CUSHION (F)	1	
303(4)	VPG7705	PACKING CASE	1	

❹ PACKING PARTS SECTION



NOTES

1. ● Be sure to make your orders of replacement parts according to this list.
   ● "<R>" in Remark column indicates recommended parts.
   ● "<M>" in Remark column indicates needed in the periodical maintenance.
2. IMPORTANT SAFETY NOTICE
   Components identified by "<!>" have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
   Meaning of symbol "<!>" on this parts list is exactly the same as symbol △on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified ;
   All resistors are in (Ω), K=1,000Ω, M=1,000kΩ.
   All capacitors are in (F), U=10^{-6} F, P=10^{-12} F.
4. ITEM NUMBERS WITH CAPITAL LETER E
   Item numbers with capital leter E (Example:E1, E2,...) in Ref.No. column mean that the parts are listed with the E item numbers in the exploded views.
5. The main assembled parts are shown below C.B.A. marked with "■" .
6. When ordering parts, use parts No. only form Part No. column.
7. Printed circuit board assembly with mark.(RTL) is no longer available after discontinuation of the product.
8. Abbreviations for parts ;

-- NAME --	-- DESCRIPTION --
C.CAPACITOR	CERAMIC CAPACITOR
C.CAPACITOR CH	CERAMIC CHIP CAPACITOR
E.CAPACITOR	ELECTROLYTIC CAPACITOR
G.CAPACITOR	GLASS CAPACITOR
M.CAPACITOR	MICA CAPACITOR
P.CAPACITOR	PLASTIC FILM CAPACITOR
S.CAPACITOR	SEMI-CONDUCTOR CAPACITOR
T.CAPACITOR	TANTALUM CAPACITOR
TRIMMER	TRIMMER
C.RESISTOR	CARBON RESISTOR
F.RESISTOR	FUSE RESISTOR
M.RESISTOR	METAL OXSIDE RESISTOR
M.RESISTOR CH	METAL OXSIDE CHIP RESISTOR
S.RESISTOR	SOLID RESISTOR
V.RESISTOR	VARIABLE RESISTOR
W.RESISTOR	WIRE WOUND RESISTOR
COMBI. TR-R	TRANSITOR-RESISTOR COMBINATION PARTS
COMBI. R-R	RESISTOR-RESISTOR COMBINATION PARTS
COMBI. C-R-L	CAPACITOR-COIL COMBINATION PARTS
C.B.A.	CIRCUIT BOARD ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP01606A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		POWER (1)		
	VEP01607A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		POWER (2)		
	VEP03A77C	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		VIDEO SUB		
	VEP06915H	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		MAIN		
	VEP01606A	P.C.BOARD W/COMPONENT		
		POWER (1)		
		CAPACITORS		
C1001	ECQV1H274JZ	P.CAPACITOR 50V 0.27U	1	
C1004	ECEA1HGE010	E.CAPACITOR 50V 1U	1	
C1005,06	ECQB1H104JF	P.CAPACITOR 50V 0.1U	2	
C1007	ECEA1HGE2R2	E.CAPACITOR 50V 2.2U	1	
C1008	ECQB1H104JF	P.CAPACITOR 50V 0.1U	1	
C1009	ECEA1HGE010	E.CAPACITOR 50V 1U	1	
C1010	ECQP1H681JZ	P.CAPACITOR 50V 680P	1	
C1011	ECQB1H104JF	P.CAPACITOR 50V 0.1U	1	
C1012	ECEA1HGE010	E.CAPACITOR 50V 1U	1	
C1013	ECA1EFQ121	E.CAPACITOR 25V 120U	1	
C1014	ECCF1H560JC	C.CAPACITOR 50V 56P	1	
C1015,16	ECEA1DFZ681	E.CAPACITOR 680U	2	
C1017	ECQB1H104JF	P.CAPACITOR 50V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1018	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C1019	ECQB1H183JF	P.CAPACITOR 50V 0.018U	1	
C1020,21	ECA1AFZ221	E.CAPACITOR 10V 220U	2	
C1022	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1023	ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1024	ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C1025	ECEA1CGE101	E.CAPACITOR 16V 100U	1	
D1001	MA2180B	DIODE	1	<R>
D1002	RU3YX	DIODE	1	<R>
D1003	MA4068M	DIODE	1	<R>
D1004	ERC81004	DIODE	1	<R>
D1005,06	11ES1	DIODE	2	<R>
D1007	ERC84009	DIODE	1	<R>
D1010	MA4075M	DIODE	1	<R>
D1011	MA4180-M	DIODE	1	<R>
IC1001	UPC1150C	IC	1	<R>
IC1002	SI3120CA	IC	1	<R>
IC1003	SI-3050CA	IC	1	<R>
L1002	VLQ0548	COIL	1	
L1003	VLQ0335	COIL	1	
L1004	VLQ0549	COIL	1	
L1005	VLQ0335	COIL	1	
P1002	VJP3091	CONNECTOR (MALE)	1	
Q1001	2SD973A	TRANSISTOR	1	<R>
Q1002	2SB953A-PQ	TRANSISTOR	1	<R>
Q1003	2SB793A	TRANSISTOR	1	<R>
Q1004	2SB1050-QR	TRANSISTOR	1	<R>
Q1005	2SD1330	TRANSISTOR	1	<R>
Q1006	2SB1050-QR	TRANSISTOR	1	<R>
Q1007	2SK1190	TRANSISTOR	1	<R>
		RESISTORS		
R1001	ERDS2TJ393	C.RESISTOR 1/4W 39K	1	
R1002	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1003,04	ERDS2TJ123	C.RESISTOR 1/4W 12K	2	
R1005	ERDS2TJ393	C.RESISTOR 1/4W 39K	1	
R1006	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1007	ERDS2TJ682	C.RESISTOR 1/4W 6.8K	1	
R1008	EROS2CKG1102	M.RESISTOR 1/4W 11K	1	
R1009	ERDS2TJ682	C.RESISTOR 1/4W 6.8K	1	
R1010	ERDS2TJ331	C.RESISTOR 1/4W 330	1	
R1011	ERD2FCJ4R7P	M.RESISTOR 2W 47	1	<!>
R1012	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1013	ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R1014	ERDS2TJ393	C.RESISTOR 1/4W 39K	1	
R1015	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1016	ERG2SJ331	M.RESISTOR 2W 330	1	
R1017	ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R1018	EROS2CKG1202	M.RESISTOR 1/4W 12K	1	
R1019	EROS2CKG6800	M.RESISTOR 1/4W 680	1	
R1020	EROS2CKG1201	M.RESISTOR 1/4W 1.2K	1	
R1021	ERDS1TJ102	C.RESISTOR 1/2W 1K	1	
R1022	ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R1023	ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R1024	ERDS2TJ123	C.RESISTOR 1/4W 12K	1	
R1025	ERG2SJ151	M.RESISTOR 2W 150	1	
R1026	EROS2CKG5101	M.RESISTOR 1/4W 5.1K	1	
R1027	ERDS2TJ471	C.RESISTOR 1/4W 470	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1028	EROS2CKG1201	M.RESISTOR 1/4W 1.2K	1	
R1029	EROS2CKG3001	M.RESISTOR 1/4W 3K	1	
R1030	EROS2CKG62R0	M.RESISTOR 1/4W 62.0	1	
R1032,33	ERDS2TJ331	C.RESISTOR 1/4W 330	2	
R1034	EROS2CKG62R0	M.RESISTOR 1/4W 62.0	1	
R1035	EROS2CKG1301	M.RESISTOR 1/4W 1.3K	1	
		MISCELLANEOUS		
	VSC1068	HEAT SINK	3	
	XYN3+F8	SCREW	3	
	VEP01607A	P.C.BOARD W/COMPONENT		
		POWER (2)		
		CAPACITORS		
C1002	ECA1EFQ821	E.CAPACITOR 25V 820U	1	
C1003	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1026	ECQB1H104JF	P.CAPACITOR 50V 0.1U	1	
D1008	ERZC10DK220	DIODE	1	<R>
D1009	8P2M	DIODE	1	<R>
L1001	VLQ0529100M	COIL	1	
P1001	VJP2824A002	CONNECTOR (MALE)	1	
		RESISTORS		
R1031	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
		MISCELLANEOUS		
	VJF0318	FUSE HOLDER	2	<!>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP03A77C	P.C.BOARD W/COMPONENT		
		VIDEO SUB		
		CAPACITORS		
C3201	ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3202	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3203	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C3204	ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C3205,06	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	2	
C3207	ECEA1CKN220	E.CAPACITOR 16V 22U	1	
C3208	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3209	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3210	ECQP1H392JZ	P.CAPACITOR 50V 3900P	1	
C3211	ECEA1HKGR68	E.CAPACITOR 50V 0.68U	1	
C3212	ECQB1H152JF	P.CAPACITOR 50V 1500P	1	
C3213	ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C3214	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3215	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C3216	ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C3217	ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C3218	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3219	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3220	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3221	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3222	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3223	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3224	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C3226	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3227	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3228	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3229	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3231	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3233	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3235	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3236	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3237	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3238	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3239	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3240	ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C3241	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3242	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3244	ECQB1H683JF	P.CAPACITOR 50V 0.068U	1	
C3245	ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3246	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3252	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
CT3201	ECRLB030E12	TRIMMER 3P	1	
D3202	MA28WA	DIODE	1	<R>
D3203-06	MA151K	DIODE	4	<R>
IC3201	AN3916	IC	1	<R>
IC3202	AN3296S	IC	1	<R>
IC3203	M35010-001SP	IC	1	<R>
IC3204	MN1280P	IC	1	<R>
IC3205	UPC78L05J	IC	1	<R>
L3201-03	VLQ0460	COIL	3	
L3204	VLQ0163J120	COIL 12UH	1	
L3205	VLQ0460	COIL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P3201,02	VJS3186B018	CONNECTOR (FEMALE)	2	
Q3201	MSB709-R	TRANSISTOR	1	<R>
Q3202-06	MSD601-R	TRANSISTOR	5	<R>
Q3207	MSB709-R	TRANSISTOR	1	<R>
		RESISTORS		
R3201,02	ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3203	ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3204	ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R3205	ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3206	ERJ6GEYJ564	M.RESISTOR CH1/16W 560K	1	
R3207	ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3208	ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3209	ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R3210	ERJ6GEYJ753	M.RESISTOR CH1/16W 75K	1	
R3211	ERJ6GEYJ684	M.RESISTOR CH1/16W 680K	1	
R3212	ERJ6GEYG113	M.RESISTOR CH1/16W 11K	1	
R3213	ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3214	ERJ6GEYG473	M.RESISTOR CH1/16W 47K	1	
R3215	ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3216,17	ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3218	ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3219	ERJ6GEYJ681	M.RESISTOR CH1/16W 680	1	
R3220,21	ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	2	
R3222	ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3223	ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3224	ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3225-27	ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	3	
R3228	ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3230	ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3231	ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3232	ERJ6GEYJ153	M.RESISTOR CH1/16W 15K	1	
VR3201	EVN32CA00B54	V.RESISTOR 50K	1	
W33	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
W66-78	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	13	
X3201	VSX0574	CRYSTAL OSCILLATOR	1	<R>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP06915H	P.C.BOARD W/COMPONENT		
		MAIN		
		CAPACITORS		
C2001,02	ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C2003	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2004	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C2005	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2006	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2007	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2008	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C2009	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2010,11	ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	2	
C2012	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2013	ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C2014	ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2015	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2016	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2017	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C2018	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2019	ECEA1AKA330	E.CAPACITOR 10V 33U	1	
C2020	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C2021	ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2022	ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C2023	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2024	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C2025	ECQB1H682JF	P.CAPACITOR 50V 6800P	1	
C2026	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C2027	ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C2301	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2302	ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C2303-06	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	4	
C2307	ECQB1H683JF	P.CAPACITOR 50V 0.068U	1	
C2308,09	ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	2	
C2310	ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C2311	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2312	ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C2313	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2315	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2316	ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2317-19	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	3	
C2320-23	ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2325	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2326	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2329,30	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	2	
C2331	ECEA1EU331	E.CAPACITOR 25V 330U	1	
C2332	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2333	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2334	ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2335	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2336	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2337,38	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2339	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2340	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2341	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2342,43	ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2344-46	ECEA1CU471	E.CAPACITOR 16V 470U	3	
C2347	ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2348	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3002	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3003	ECQB1H153JF	P.CAPACITOR 50V 0.015U	1	
C3004,05	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C3006	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3007	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3008	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3009	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3010	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3011	ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3012		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3013		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3014		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3015		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3016		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C3017		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3018		ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C3046		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3047		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3048		ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C3049		ECEA1CPK470	E.CAPACITOR 16V 47U	1	
C3050		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3051		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C3052		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3053		ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C3054		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3055		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C3056		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3057		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3064		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3066,67		ECEA0JKN470	E.CAPACITOR 6.3V 47U	2	
C3068		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3069		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3070		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3071		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3079		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3084		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3096		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3501		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3502		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3503		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3504-07		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3508		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3509		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3510		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3511,12		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3513		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3516		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3517		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3518		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3519		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3520		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3521		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3522,23		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3524		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3525		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3527		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3528		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3529		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3530		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3531		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3532		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3534		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3535		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3536		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3537		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3541		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3542		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3543		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3544		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3546		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3547		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3548		ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C3549		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3550		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C3551		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3552		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3553		ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C3554		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C3555,56		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C3557		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3558		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3559		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C3560		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3561		ECQB1H393JF	P.CAPACITOR 50V 0.039U	1	
C3563		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C3565		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C3566		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3567		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3568,69		ECQV1H184JZ	P.CAPACITOR 50V 0.18U	2	
C3570		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3571		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3572		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3573,74		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3581		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3582		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3583		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3584		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3588-90		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3593		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3594		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3596		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C4001		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C6001		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6004,05		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6006		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C6007		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6008		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6009		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6010		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C6011		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6012		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C6013,14		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6016-23		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	8	
C6025-28		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	4	
C6029,30		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	2	
C6033		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6034		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6103,04		ECEA0JKA221	E.CAPACITOR 6.3V 220U	2	
C6105		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
D2001,02		MA151WK	DIODE	2	<R>
D2301,02		11EQS04	DIODE	2	<R>
D2303		MA151K	DIODE	1	<R>
D2304,05		MA153	DIODE	2	<R>
D2306		MA4062M	DIODE	1	<R>
D3501		MA4091	DIODE	1	<R>
D3502		MA151K	DIODE	1	<R>
D3504		MA151K	DIODE	1	<R>
D3508		MA151WA	DIODE	1	<R>
D6001-06		MA151K	DIODE	6	<R>
D6008		11EQS04	DIODE	1	<R>
D6009		MA3120-M	DIODE	1	<R>
D6010		MA151K	DIODE	1	<R>
D6101		11EQS04	DIODE	1	<R>
D6102		MA704	DIODE	1	<R>
D6103		MA723	DIODE	1	<R>
DL3003		VLD0125	DELAY	1	
DL3501		VLD0147	DELAY	1	
DL3503		VLD0153	DELAY	1	
FL3002		VLF0499	FILTER	1	
FL3003		VLF0878	FILTER	1	
FL3004		ELB4M022	FILTER	1	
FL3501		VLF0727	FILTER	1	
FL3502		VLF0299	FILTER	1	
IC2001		AN3727S	IC	1	<R>
IC2002		MC14070BF	IC	1	<R>
IC2003		TC7W00F	IC	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC2004		LM358PS	IC	1	<R>
IC2005		TC4S66F	IC	1	<R>
IC2006		LM393PS	IC	1	<R>
IC2301		AN3815K	IC	1	<R>
IC2302		BA6439S	IC	1	<R>
IC2303		MN1280-U	IC	1	<R>
IC2304		LM393PS	IC	1	<R>
IC2305,06		UPC4556G2	IC	2	<R>
IC3001		VEFH03D	IC	1	<R>
IC3005		NJM2233BMA	IC	1	<R>
IC3501		MN74HC4053S	IC	1	<R>
IC3502		MSM6965-3RS	IC	1	<R>
IC3503		VEFH04F	IC	1	<R>
IC6001		MN67434VMEJ	IC	1	<R>
IC6002		LM358PS	IC	1	<R>
IC6003		BA6219B	IC	1	<R>
IC6004		MN1280	IC	1	<R>
IC6005		TC4W53F	IC	1	<R>
IC6006		TC7W00F	IC	1	<R>
J3002		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3004-07		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	4	
J3009		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3012,13		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
J3023		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3501		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3503		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3505		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3507		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J4001,02		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
J6008,09		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
L2001-04		VLQ0460	COIL	4	
L2301		VLQ0460	COIL	1	
L2304		VLQ0460	COIL	1	
L2305		VLQEL05K102J	COIL 1000UH	1	
L3001		VLQEL05K680J	COIL 68UH	1	
L3002		VLQEL05K270J	COIL 27UH	1	
L3003		VLQ0460	COIL	1	
L3004		VLQEL05K820J	COIL 82UH	1	
L3005		VLQ0460	COIL	1	
L3012		VLQEL05K220J	COIL 22UH	1	
L3013		VLQ0460	COIL	1	
L3014		VLQEL05K2R2J	COIL 2.2UH	1	
L3018		VLQEL05K121J	COIL 120UH	1	
L3502		VLQEL05K820J	COIL 82UH	1	
L3503		VLQEL05K151J	COIL 150UH	1	
L3504-06		VLQ0460	COIL	3	
L3508		VLQEL05K151J	COIL 150UH	1	
L3509		VLQEL05K270J	COIL 27UH	1	
L3510		VLQEL05K470J	COIL 47UH	1	
L3511		VLQ0460	COIL	1	
L3514		VLQEL05K681J	COIL 680UH	1	
L3515,16		VLQ0460	COIL	2	
L3517		VLQEL05K6R8J	COIL 6.8UH	1	
L3518		VLQEL05K101J	COIL 100UH	1	
L3519		VLQEL05K120J	COIL 12UH	1	
L3520		VLQEL05K150J	COIL 15UH	1	
L3523		VLQEL05K681J	COIL 680UH	1	
L3524		VLQEL05K391J	COIL 390UH	1	
L3526		VLQEL05K560J	COIL 56UH	1	
L3531		VLQEL05K270J	COIL 27UH	1	
L3532		VLQEL05K5R6J	COIL 5.6UH	1	
L6002		VLP0083	COIL	1	
L6003		VLQ0460	COIL	1	
L6004-07		VLQEL05K221J	COIL 220UH	4	
P2301		VJP3078	CONNECTOR (MALE)	1	
P2302		VJS3537A015G	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P2303		VJP3529	CONNECTOR (MALE)	1	
P3501		VJS3537A014G	CONNECTOR (FEMALE)	1	
P4001		VJP3186A018W	CONNECTOR (MALE)	1	
P4003		VJP3186A018W	CONNECTOR (MALE)	1	
P4004		VJS2329	CONNECTOR (FEMALE)	1	
P6001		VJS3537A013G	CONNECTOR (FEMALE)	1	
P6002		VJP1229T	CONNECTOR (MALE)	1	
P6003		VJP3079	CONNECTOR (MALE)	1	
P6004		VJS3537A012G	CONNECTOR (FEMALE)	1	
P6005		VJS3537A020G	CONNECTOR (FEMALE)	1	
P6007,08		VJS1410	CONNECTOR (FEMALE)	2	
P6101,02		VJP3186A018W	CONNECTOR (MALE)	2	
Q3001		MSB709-R	TRANSISTOR	1	<R>
Q3010		MSB709-R	TRANSISTOR	1	<R>
Q3012		MSD601-R	TRANSISTOR	1	<R>
Q3013		2SA1022-B	TRANSISTOR	1	<R>
Q3014		MSC2295-B	TRANSISTOR	1	<R>
Q3501,02		MSD601-R	TRANSISTOR	2	<R>
Q3503,04		MSC2295-B	TRANSISTOR	2	<R>
Q3505,06		MSB709-R	TRANSISTOR	2	<R>
Q3507		MSD601-R	TRANSISTOR	1	<R>
Q3508		2SB642	TRANSISTOR	1	<R>
Q3509		2SB643	TRANSISTOR	1	<R>
Q3510		MSC2295-B	TRANSISTOR	1	<R>
Q3511		MSD601-R	TRANSISTOR	1	<R>
Q3512		MSC2295-B	TRANSISTOR	1	<R>
Q3514,15		MSD601-R	TRANSISTOR	2	<R>
Q3516		MSC2295-B	TRANSISTOR	1	<R>
Q3517,18		MSB709-R	TRANSISTOR	2	<R>
Q6001		MSB709-R	TRANSISTOR	1	<R>
Q6003		MSD601-R	TRANSISTOR	1	<R>
Q6004		2SD601A	TRANSISTOR	1	<R>
Q6101		2SB1050	TRANSISTOR	1	<R>
QR2001		XN1213	TRANSISTOR-RESISTOR	1	<R>
QR2301		MRN2404	TRANSISTOR-RESISTOR	1	<R>
QR2302		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR3002		XN1213	TRANSISTOR-RESISTOR	1	<R>
QR3008		MRN2404	TRANSISTOR-RESISTOR	1	<R>
QR3011,12		MRN1403	TRANSISTOR-RESISTOR	2	<R>
QR3015		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR3501		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR3505		MRN1402	TRANSISTOR-RESISTOR	1	<R>
QR3506		MRN2402	TRANSISTOR-RESISTOR	1	<R>
QR3507		DTC363EK	TRANSISTOR-RESISTOR	1	<R>
QR3508		MRN1403	TRANSISTOR-RESISTOR	1	<R>
QR3509,10		XN1213	TRANSISTOR-RESISTOR	2	<R>
QR3514		DTC363EK	TRANSISTOR-RESISTOR	1	<R>
QR3515		MRN1403	TRANSISTOR-RESISTOR	1	<R>
QR6001		XN1211	TRANSISTOR-RESISTOR	1	<R>
QR6003		MRN1402	TRANSISTOR-RESISTOR	1	<R>
QR6004		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR6005		XN1213	TRANSISTOR-RESISTOR	1	<R>
QR6007		XN1213	TRANSISTOR-RESISTOR	1	<R>
QR6008		MRN1404	TRANSISTOR-RESISTOR	1	<R>
QR6101		MRN1402	TRANSISTOR-RESISTOR	1	<R>
			RESISTORS		
R2001		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R2002		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R2003		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R2004		ERJ6GEYJ563	M.RESISTOR CH1/16W 56K	1	
R2005,06		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R2007		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R2008		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R2009		ERJ6GEYG622	M.RESISTOR CH1/16W 6.2K	1	
R2011,12		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	2	
R2013,14		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2015		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2016		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R2017		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R2018-20		ERJ6GEYG223	M.RESISTOR CH1/16W 22K	3	
R2021		ERJ6GEYG333	M.RESISTOR CH1/16W 33K	1	
R2022		ERJ6GEYG224	M.RESISTOR CH1/16W 220K	1	
R2023		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2024,25		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R2029		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2301		ERDS2TJ150	C.RESISTOR 1/4W 15	1	
R2302		ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2303,04		ERDS2TJ150	C.RESISTOR 1/4W 15	2	
R2305		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2306		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R2307,08		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	2	
R2309		ERJ6GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R2310		ERJ6GEYG432	M.RESISTOR CH1/16W 4.3K	1	
R2311		ERJ6GEYJ684	M.RESISTOR CH1/16W 680K	1	
R2312		ERJ6GEYG473	M.RESISTOR CH1/16W 47K	1	
R2313		ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2314		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2315		ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2316		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2317		ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2318		ERJ6GEYJ681	M.RESISTOR CH1/16W 680	1	
R2321		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2322		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	1	
R2323		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2324		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	1	
R2325-28		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	4	
R2329,30		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	2	
R2331		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R2332		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R2333		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R2334		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R2335		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R2336		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R2337		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2338		ERJ6GEYJ105	M.RESISTOR CH1/16W 1M	1	
R2339		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R2340		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R2341		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2342,43		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3004		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3005		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3006		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3007		ERJ6GEYF124	M.RESISTOR CH1/16W 120K	1	
R3008		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3009		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R3010		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3011		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3012		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3013		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3014		ERJ6GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3015		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3017,18		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	2	
R3019		ERJ6GEYJ750	M.RESISTOR CH1/16W 75	1	
R3020,21		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3036		ERJ6GEYG471	M.RESISTOR CH1/16W 470	1	
R3041		ERJ6GEYG102	M.RESISTOR CH1/16W 1K	1	
R3052		ERJ6GEYJ391	M.RESISTOR CH1/16W 390	1	
R3053		ERJ6GEYJ101	M.RESISTOR CH1/16W 100	1	
R3054		ERJ6GEYJ824	M.RESISTOR CH1/16W 820K	1	
R3055,56		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3057		ERJ6GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3058		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3066,67		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R3068,69		ERJ6GEYG911	M.RESISTOR CH1/16W 910	2	
R3070		ERJ6GEYG112	M.RESISTOR CH1/16W 1.1K	1	
R3071		ERJ6GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R3072		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R3073		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3074		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3075		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R3076		ERJ6GEYG681	M.RESISTOR CH1/16W 680	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3077		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3079		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3085		ERJ6GEYG112	M.RESISTOR CH1/16W 1.1K	1	
R3088		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3089		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3090		ERJ6GEYG432	M.RESISTOR CH1/16W 4.3K	1	
R3094		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3112		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3118,19		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3501,02		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3503		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3504		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3505,06		ERJ6GEYJ122	M.RESISTOR CH1/16W 1.2K	2	
R3507		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3508,09		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	2	
R3510		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3511		ERJ6GEYJ330	M.RESISTOR CH1/16W 33	1	
R3512		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3513		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3514		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3515-18		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	4	
R3519		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3520		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3521		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3522		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3523		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3524		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3525		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3526		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3527		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3528		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3529		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3530		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R3533		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3534		ERJ6GEYJ330	M.RESISTOR CH1/16W 33	1	
R3535,36		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R3537		ERJ6GEYJ820	M.RESISTOR CH1/16W 82	1	
R3538		ERJ6GEYG680	M.RESISTOR CH1/16W 68	1	
R3539		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3540		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3542		ERJ6GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R3543		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3544,45		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3547		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3548		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3549		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3550		ERJ6GEYJ330	M.RESISTOR CH1/16W 33	1	
R3551		ERJ6GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R3552		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R3553		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3554		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R3555		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3556		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R3557		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3560		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R3561		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R3562		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3564		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3565		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3566		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3567		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3568,69		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3572		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3574		ERJ6GEYJ271	M.RESISTOR CH1/16W 270	1	
R3575		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3576		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3577		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3578		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R3579		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3580		ERJ6GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3581		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3582		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3585		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3588		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3590		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	

! Warning
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Order No. VSD9504S238
D2

Service Manual

Supplement

NTSC / PAL Video Product

Subject :Addition of Barrier Angle

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-1070DCP	4	VSD9409M253	D5-----
AG-6124P	3	VSD9409M253	D5-----
AG-5210P	7	VSD9401M241	D5-----
AG-6124E/B	6	VSD9406M635	D5-----
AG-1070DCE V-1774 P4	4	VSD9411M638	D5-----
AG-5260E/B	6	VSD9404M633	D5-----

Symptom : Tape eject and tape insertion may not be performed smoothly.

Cause : The ribbon cables from connectors P6001, P2302 and P6005 on the main C.B.A. may interfere with the cassette front cover.

Remedy : In order to prevent this symptom, the following barrier angle has been added on the right / rear come of the front loading unit.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
251	----------	VMP4662	BARRIER ANGLE	1	E	
B14		XTB26+8G	SCREW	2	E	

TM2-311

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Order No. VSD9506S603

Service Manual

Supplement

Video Product

Subject : Change of Packing Case

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-7700E	8	VSD9502M642	F5------
AG-7600E	3	VSD9502M642	F5------
AG-1070DCE [illegible]	5	VSD9411M638	F5------

Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ☐ The following part(s) has(have) been changed for standardization.
- ■ The following part(s) has (have) been changed for the safety regulation.
- ☐

3x

CE mark has been added on the packing case.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
	VPG7724	VPG8312	PACKING CASE	1	C	
	VPG7723	VPG8313	PACKING CASE	1	C	
	VPG7705	VPG8321	PACKING CASE	1	C	

TM2-3138

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11434 ✓
11484 ✓

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Order No. VSD9611S603
D2

Service Manual

Supplement

PAL

Video Product

Subject : Change of Cylinder Unit and Upper Cylinder

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-6124E	8	VSD9406M635	D6-----
AG-1070DCE	6	VSD9411M638	D6-----

BOARD: MAIN

Reason for Change

☐ The following part(s) has(have) been changed for serviceability improvement.
☐ The following part(s) has(have) been changed for productivity improvement.
■ The following part(s) has(have) been changed for standardization.
☐ The following part(s) has (have) been changed for the safety regulation.
☐

1. More details information such as schematic diagram P.C. Board layout and parts list of the new board will be issued soon as supplement service manual.
2. "U" indication has been added on the model number plate on the rear panel with the unit has new type cylinder.
3. The new cylinder unit, upper cylinder and main P.C.Board can not feted on a unit which has the original cylinder unit, upper cylinder and main P.C.Board

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
70	VEG1138	VEG1221	CYLINDER UNIT	1	D	FOR AG-6124E/1070DCE
71	VEH0656	VEH0715	UPPER CYLINDER	1	D	FOR AG-6124E/1070DCE
	VEP06915C	VEP06B33B	MAIN C.B.A.	1	D	FOR AG-6124E
	VEP06915H	VEP06B33C	MAIN C.B.A.	1	D	FOR 1070DCE

TE2-4469, TE2-4471

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Upper Cylinder Removal

1. Remove the earth plate with the cable from the cylinder stator P.C.Board. (Figure M1-1)

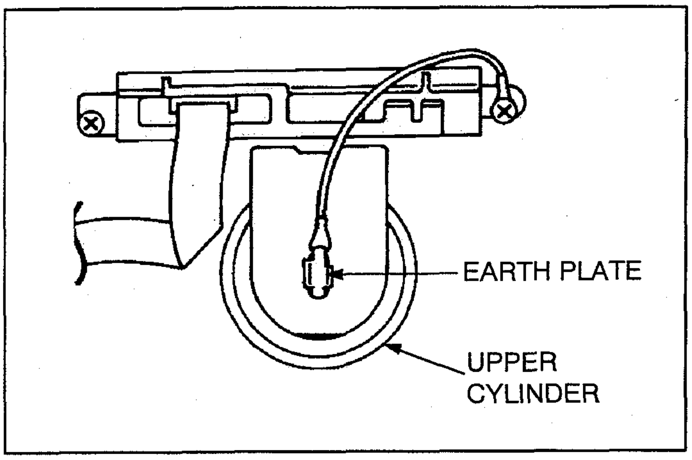
EARTH PLATE
UPPER CYLINDER

Fig. M1-1

2. Unscrew 2 screws (A) so that the cylinder stator unit can be removed from the cylinder unit. (Figure M1-2)

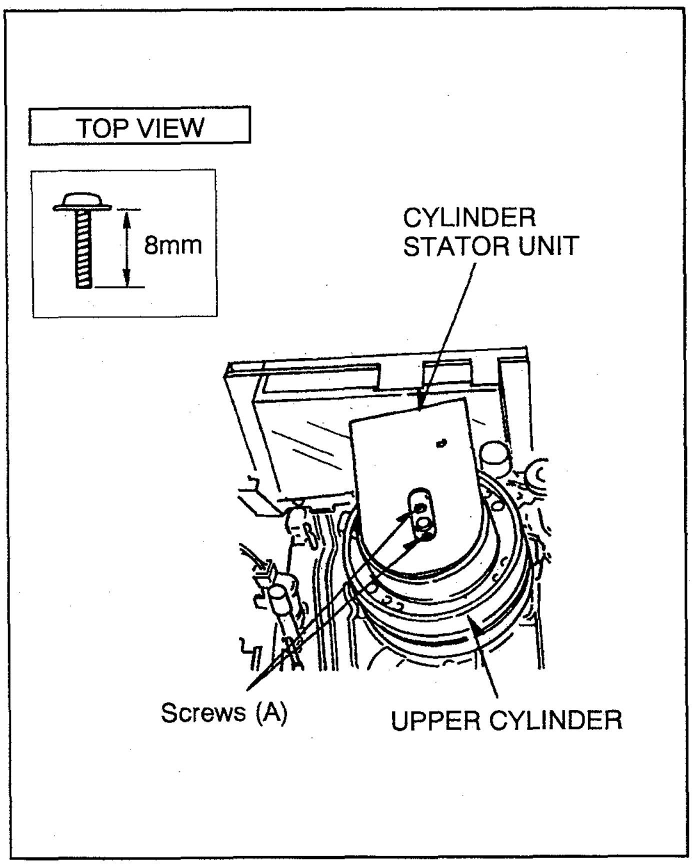
TOP VIEW
8mm
CYLINDER STATOR UNIT
Screws (A)
UPPER CYLINDER

Fig.M1-2

3. Unscrew 2 screws (B) so that the cylinder rotor unit can be removed. (Figure M1-3)
4. Loosen the hex screw (C) in the cylinder retainer by using a 1.5mm hex wrench so that the cylinder retainer and upper cylinder unit can be lifted and removed. (Figure 1-4)

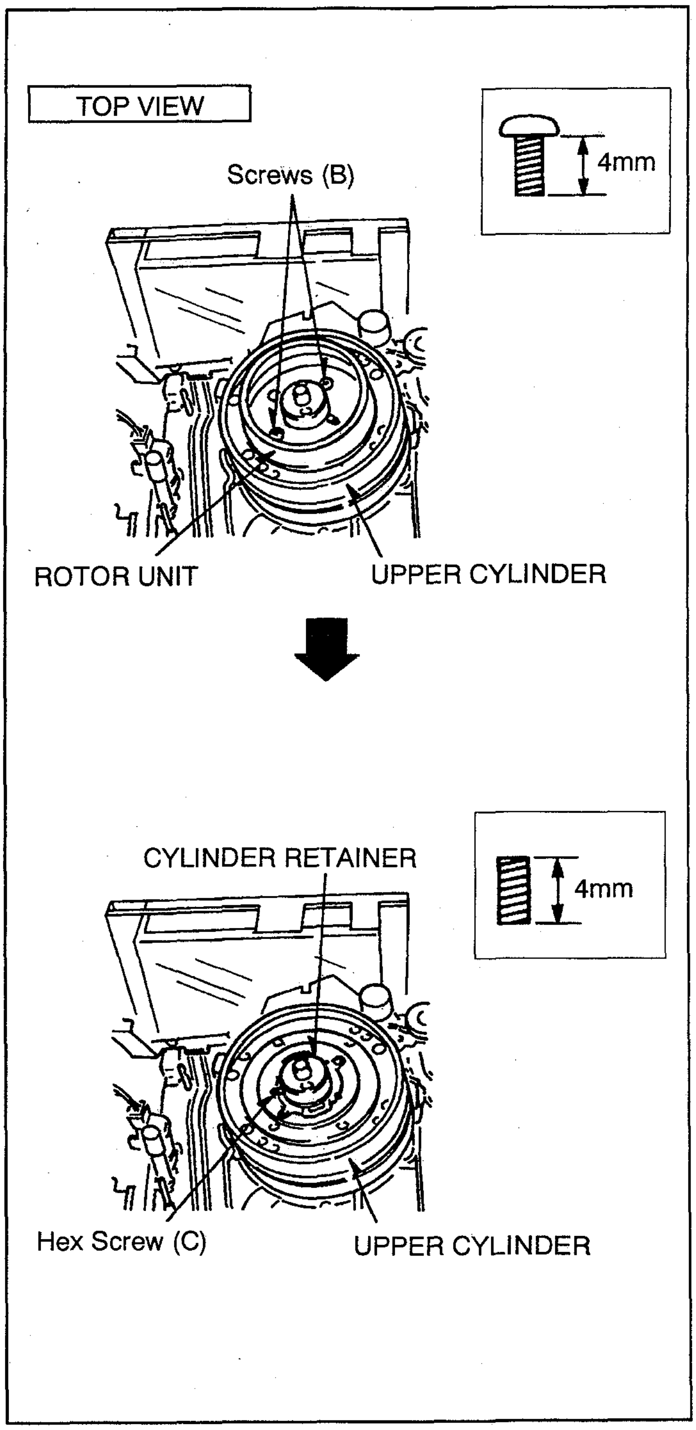
TOP VIEW
Screws (B)
4mm
ROTOR UNIT
UPPER CYLINDER
CYLINDER RETAINER
4mm
Hex Screw (C)
UPPER CYLINDER

Fig. M1-3

UPPER CYLINDER INSTALLATION

1. Install the upper cylinder unit and retainer.
2. Adjust the position of the retainer so that the 2 screw holes on the retainer becomes as shown Figure M2-1.
3. Tighten 2 screws (C) while strongly pressing down the retainer. (Figure M2-2)
   (If the pressing force is not enough, the tape interchangeability may be out of specification and the life of upper cylinder becomes shorten.)

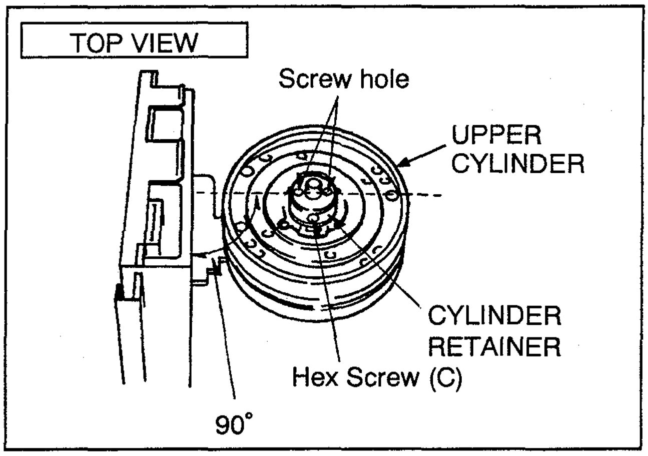
TOP VIEW
Screw hole
UPPER CYLINDER
CYLINDER RETAINER
Hex Screw (C)
90°

Fig. M2-1

4. Place the cylinder rotor unit so that the inner U cut of cylinder rotor unit and the projection on the upper cylinder are fit each other. (Figure M2-2)
5. Screw 2 screws (B). (Figure M2-3)

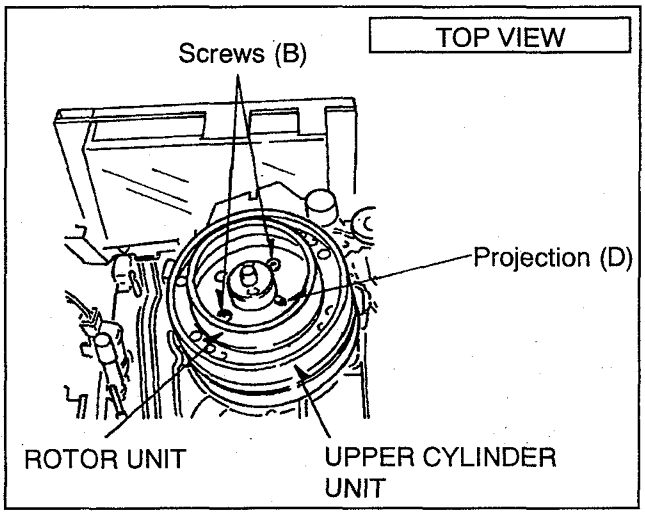
TOP VIEW
Screws (B)
Projection (D)
ROTOR UNIT
UPPER CYLINDER UNIT

Fig.M2-2

6. Install the cylinder stator unit and tighten 2 screws (A).

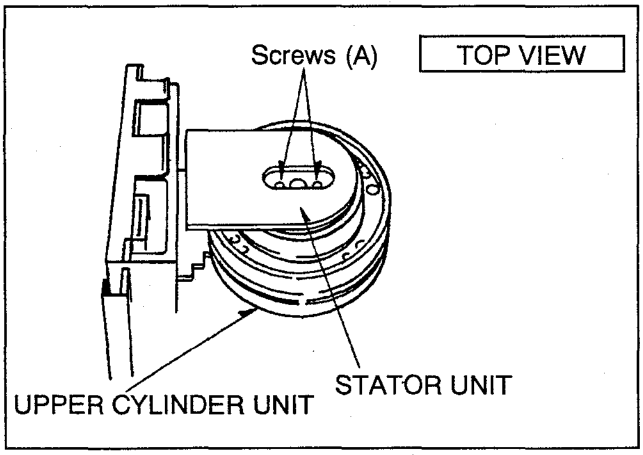
Screws (A)
TOP VIEW
UPPER CYLINDER UNIT
STATOR UNIT

Fig. M2-3

7. After completion of the upper cylinder unit, perform "Tape Interchangeability Adjustment", " PG Shifter Adjustment" and "Play Frequency Response Adjustment.

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Order No. VSD9608S602

1 Kopie f. Original!

Service Manual

Supplement

Video Product

Subject : Improvement of E-E Y Level Precision

Please use this supplement together with the Service Manual as follows :

Model No.		Bulletin No.	Order No.	Effective from
AG-6124E		9	VSD9406M635	I6----
AG-1070DCE	V1114 P4	7	VSD9411M638	I6----

Board: MAIN

Symptom : The E-E Y output level may be out of specification.

Remedy : In order to improve this symptom, the following resistors and variable resistor in the parts list have been changed.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
R3085	ERJ6GEYG102	VRE0034E821	M.RESISTOR CH 1/10W 820	1	C	
R3036	ERJ6GEYG471	VRE0034E471	M.RESISTOR CH 1/10W 470	1	C	
R3076	ERJ6GEYG681	VRE0034E681	M.RESISTOR CH 1/10W 680	1	C	
R3071	ERJ6GEYJ122	ERJ6GEYG122	M.RESISTOR CH 1/10W 1.2K	1	C	
R3013	ERJ6GEYJ222	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	C	
R3073	ERJ6GEYJ561	VRE0034E561	M.RESISTOR CH 1/10W 560	1	C	
R3019	ERJ6GEYJ750	ERJ6GEYG750	M.RESISTOR CH 1/10W 75	1	C	

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Order No. VSD9806S601
D1

Service Manual

Supplement

PAL

Video Product

Subject : Change of Front Microcomputer

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-6124B	12	VSD9406M635	A8-----
AG-6124E	12	VSD9406M635	A8-----
AG-1070DCE [illegible]	10	VSD9411M638	A8-----

Board: FRONT C.B.A.

Symptom : In the extremely low probability, the Time Date characters on monitor TV disappears in the record mode.

Remedy : To correct the above symptom, the software in the Front Microcomputer has been changed.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
IC6501	UPD75336C079	UPD75336C191	IC	1	C	

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Order No. VSD9806S217
D1,D2

Service Manual

Supplement

NTSC/PAL **Video Product**

Subject : Change of Coil

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-RT600P	6	VSD9509M262	H8----
AG-1070DCP	12	VSD9409M253	H8----
AG-5210P	14	VSD9401M241	H8----
AG-6124P	14	VSD9409M253	H8----
AG-1070DCE V116, P4	11	VSD9411M638	H8----
AG-5260B	13	VSD9404M633	H8----
AG-5260E	13	VSD9404M633	H8----
AG-6124B	13	VSD9406M635	H8----
AG-6124E	13	VSD9406M635	H8----

Board: FRONT C.B.A.
FRONT JACK C.B.A.

The Front C.B.A. has been changed to take compatibility with the development model.
Please refer to figures on back page.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
R6531	----	ERJ6GEY0R00	RESISTOR 1/10W 0	1		FRONT
R6594	----	ERJ6GEY0R00	RESISTOR 1/10W 0	1		FRONT
R6595	----	VLP0147	COIL	1		FRONT
C6851	----	ECQB1H123JF	CAPACITOR 50V 0.012	1		Except AG-RT600P, AG-5210P
R6851	----	ERJ6GEY0R00	RESISTOR 1/10W 0	1		
R6852	----	ERJ6GEY0R00	RESISTOR 1/10W 0	1		

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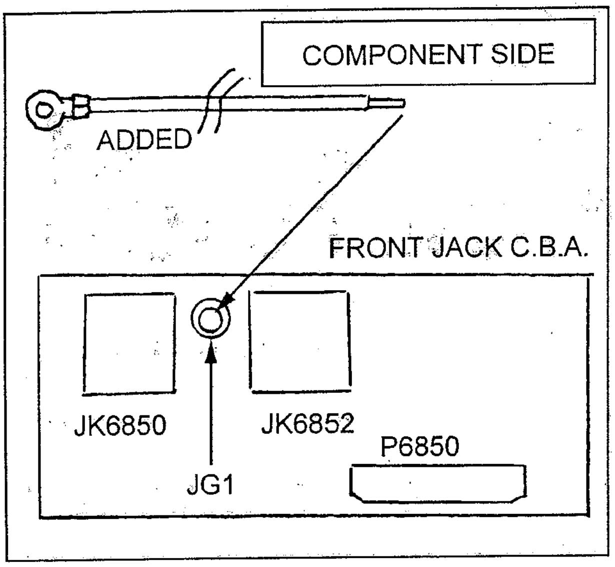
COMPONENT SIDE
ADDED
FRONT JACK C.B.A.
JK6850
JK6852
P6850
JG1

Figure 1

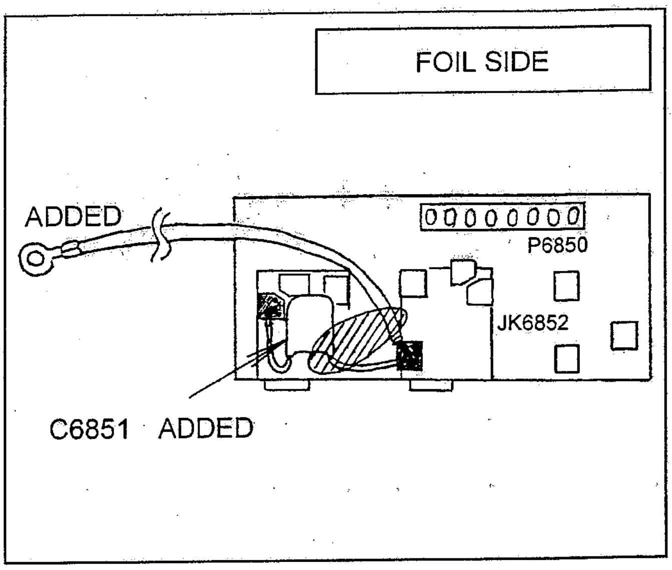
FOIL SIDE
ADDED
P6850
JK6852
C6851 ADDED

Figure 2

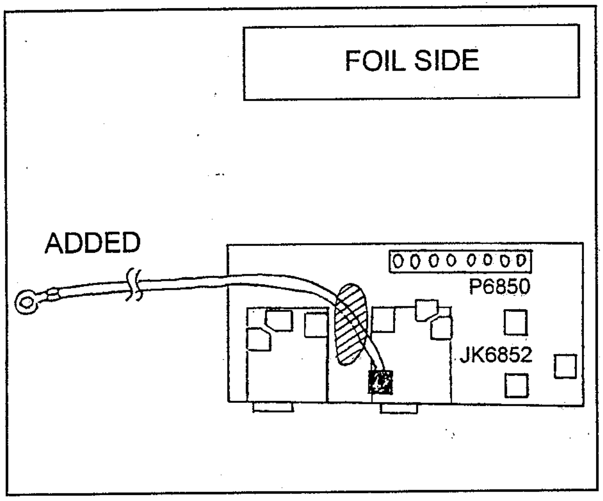
FOIL SIDE
ADDED
P6850
JK6852

Figure 3

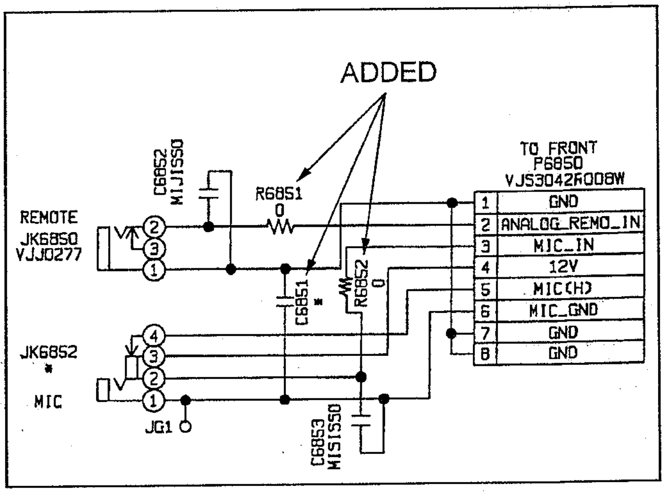
ADDED
C6852
MIJ1550
R6851
0
REMOTE
JK6850
VJJ0277
C6851
*
R6852
0
TO FRONT
P6850
VJS3042R008W
1 GND
2 ANALOG_REMO_IN
3 MIC_IN
4 12V
5 MIC(H)
6 MIC_GND
7 GND
8 GND
JK6852
*
MIC
JG1
C6853
MIS1550

Figure 4

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Order No. VSD9806S222
D1,D2

Service Manual

Supplement

NTSC/PAL **Video Product**

Subject : Change of Microcomputer (IC6001)

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-RT600P	8	VSD9509M262	'98 Running Change
AG-1070DCP	13	VSD9409M253	'98 Running Change
AG-5210P	16	VSD9401M241	'98 Running Change
AG-6124P	16	VSD9409M253	'98 Running Change
AG-1070DCE V9911P11	12	VSD9411M638	'98 Running Change
AG-5260B	14	VSD9404M633	'98 Running Change
AG-5260E	14	VSD9411M638	'98 Running Change
AG-6124B	14	VSD9406M635	'98 Running Change
AG-6124E	14	VSD9406M635	'98 Running Change

Board: MAIN C.B.A.

The Servo/System control Microcomputer (IC6001) has been changed for factory automation system.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
IC6001	MN67434VMEE	MN67434AA	IC	1		AG-5210P, AG-5260B, AG-5260E
IC6001	MN67434VMER	MN67434AB	IC	1		AG-RT600P
IC6001	MN67434VMEX	MN67434AC	IC	1		AG-6124P, AG-6124B, AG-6124E AG-1070DCP, AG-1070DCE

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Order No. VSD9811S606

Service Manual

Supplement

PAL

Video Product

Subject : Alarm input failure

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.		Order No.		Effective from
AG-1070DCE	13	VJ1484	VSD8810M608	A038063	K8---
AG-6124E	16	~~VJ1454~~	VSD9406M635	- " -	K8---
AG-6124B	16	- " -	VSD9406M635	- " -	K8---

Board: FRONT P.C.Board.(VEP06914C)
REAR JACK P.C.Board (VEP04428A)

Symptom : 1. When the alarm input causes chattering while in the manual alarm mode, alarm REC fails even if alarm is input.
2. Instantaneous power supply interrupt occurs depending on LED lighting timing. Recording starts after recovery of power supply.
3. If two or more alarm resets are input during course of returning from alarm REC to the previous mode, the next alarm will be reset.

Cause : Symptom 1 or 3: Caused by software failure.

Remedy : 1. Added a capacitor on FRONT P.C.Board.
C6225 is added ECEA1CK100 on the foil side.
2. Added a capacitor on REAR JACK P.C.Board.
C6906 is added ECEA0JKA221 on the foil side.
C6907 is added ECEA1CKA100 on the foil side.

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C6525	-----	ECEA1CKA100	E. CAPACITOR 16V 10U	1	FRONT P.C.Board.(VEP06914C)
C6906	-----	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	REAR JACK P.C.Board (VEP04428A)
C6907	-----	ECEA1CKA100	E. CAPACITOR 16V 10U	1	REAR JACK P.C.Board (VEP04428A)

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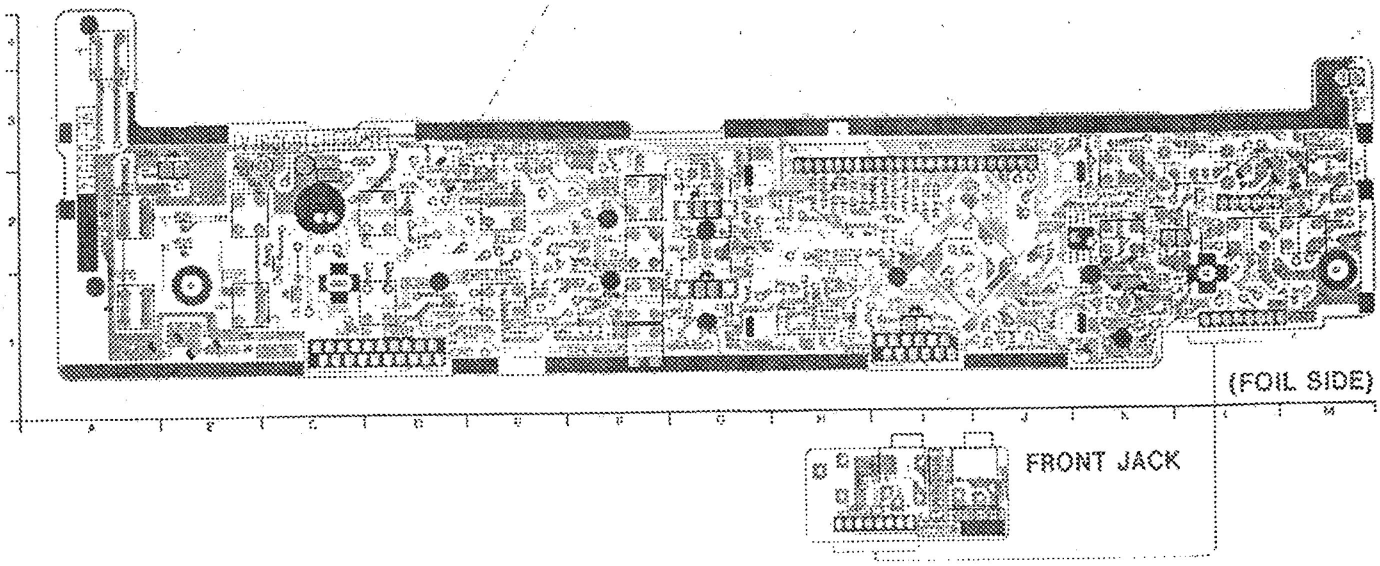
1) FRONT P.C. Board is changed

Add a capacitor (ECEACK100) to C6525 (not fixed)

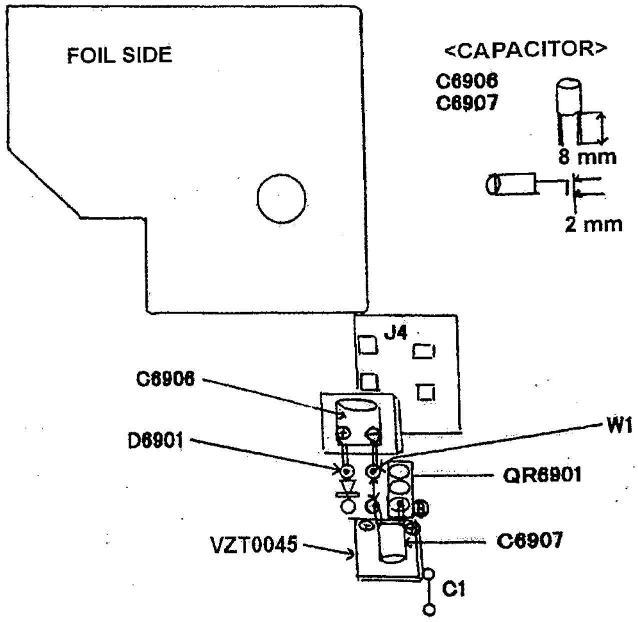

(FOIL SIDE)
FRONT JACK

2) READ JACK P.C. Board is changed

1) The C6906 (+) side is soldered to the D6901 (A) SIDE. The C6906 (-) side is soldered to the W1.
2) The C6907 (+) side is soldered to the QR6901 (B) SIDE. The C6907 (-) side is soldered to the W1.
3) After the C6906 and C6907 is soldered, they are fixed by the VZT0045.

* Prepare the capacitor for foil side as shown below.

In case of VEP04428


FOIL SIDE
<CAPACITOR>
C6906
C6907
8 mm
2 mm
J4
C6906
D6901
W1
QR6901
VZT0045
C6907
C1

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Order No. VSD9811S608

Service Manual

Supplement

PAL

Video Product

Subject : Changing Barrier Angle

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-1070DCE	14	V11484 VSD9411M638 1038063	K8----
AG-5260E	17	VSD9404M683 —	K8----
AG-6124E	17	V11484 VSD9406M635 1038063	K8----
AG-5260B	17	V01461 VSD9404M633 1014124	K8----
AG-6124B	17	V11484 VSD9406M635 1038063	K8----

Symptom : Very rarely, the flexible cable on the main P.C.Board hits a snag while the cassette is being inserted or ejected.

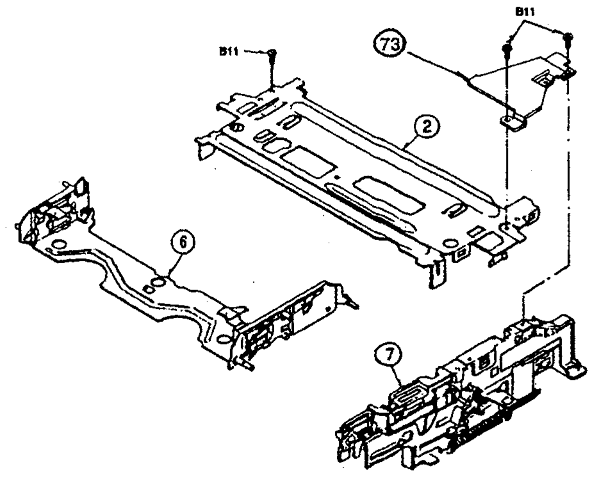
Cause : The Barrier Angle is not large enough to cover whole flexible cable.

Remedy : Change the Barrier Angle.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Description	Pcs	Remarks
73	VMP4662	VMP6008	Barrier Angle	1	

Change the Barrier Angle with newly designed one (see the figure right).

73 : Barrier Angle (VMP6008)
2 : TOP PLATE (VMA8644)
6 : CASSETTE HOLDER PLATE UNIT (VXA4661)
7 : SIDE PLATE (R) UNIT (VXA4806)



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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3591		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3592		ERJ6GEYG621	M.RESISTOR CH1/16W 620	1	
R3593		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3596		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3600,01		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3605		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3606		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3613		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4001		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R4003		ERJ6GEYJ100	M.RESISTOR CH1/16W 10	1	
R4004		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R6001		ER0S2CKG2000	M.RESISTOR 1/4W 200	1	
R6002		ERJ6GEYJ271	M.RESISTOR CH1/16W 270	1	
R6003,04		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	2	
R6005		ERJ6GEYG244	M.RESISTOR CH1/16W 240K	1	
R6006		ERJ6GEYJ153	M.RESISTOR CH1/16W 15K	1	
R6007		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R6008		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6009		ERJ6GEYG112	M.RESISTOR CH1/16W 1.1K	1	
R6010		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6011		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6012		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R6013		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6014		ERJ6GEYJ564	M.RESISTOR CH1/16W 560K	1	
R6015		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R6016		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6017		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6018		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R6019		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R6020,21		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R6022		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6023		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R6024-26		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	3	
R6027		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6028-34		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	7	
R6035		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6036-38		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	3	
R6039		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R6040		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R6041		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R6042		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R6045		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R6047		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R6048		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6049		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R6052,53		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R6056,57		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	2	
R6058		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6059		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6060		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R6061		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R6062,63		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	2	
R6065		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6067		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R6068		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6070		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6101		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R6102		ER0S2CKG1400	C.RESISTOR 1/4W 140P	1	
R6103		ERJ6GEYG271	M.RESISTOR CH1/16W 270	1	
R6104		ERDS2TJ121	C.RESISTOR 1/4W 120	1	
R6105		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6114		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
VR2001		EVMF6SA00B23	V.RESISTOR 2K	1	
VR2002-08		EVMF6SA00B15	V.RESISTOR 100K	7	
VR3501		EVMF6SA00B23	V.RESISTOR 2K	1	
VR3502		EVMF6SA00B14	V.RESISTOR 10K	1	
VR3503		EVMF6SA00B52	V.RESISTOR 500	1	
VR3504,05		EVMF6SA00B53	V.RESISTOR 5K	2	
VR3506		EVMF6SA00B52	V.RESISTOR 500	1	
VR4001		EVMF6SA00B54	V.RESISTOR 50K	1	
VR4006		EVMF6SA00B54	V.RESISTOR 50K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
W1-W9		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	9	
W10-21		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	12	
X3501		VSX0225	CRYSTAL OSCILLATOR	1	<R>
X3502		VSX0162	CRYSTAL OSCILLATOR	1	<R>
X6001		VSX0296	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
		VKC0295	P.C.B. SPACER	2	
		VKC0421	HINGE	3	
		VKC0422	SPACER	2	
		VMC0075	HEAT SINK SPRING	1	
		VSC3405	HEAT SINK	1	

ORDER NO. VSD9406M635

Service Manual

Time Lapse Recorder

Panasonic VHS PAL

AG-6124-E -B

K-MECHANISM

Sec. 1 *Operating Instructions*
Sec. 2 *Disassembly Procedures*
Sec. 3 *Maintenance*
Sec. 4 *Electrical Adjustment*
Sec. 5 *Block Diagrams*
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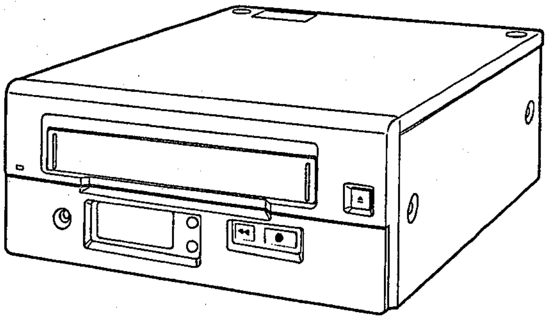
V11494



Please use this manual together with the service manual for K-MECHANISM, Order No. VSD9402M632.

SPECIFICATIONS

ITEM	SPECIFICATIONS
Power	Source: 220V～240V AC 50～60Hz Consumption: Approx. 18 Watts
Video	Head: 4 rotary heads, helical scanning system Luminance: FM recording Colour signal: Converted subcarrier phase shift recording Input Level: VIDEO IN (BNC); 1.0Vp-p, 75Ω Output Level: VIDEO OUT (BNC); 1.0Vp-p, 75Ω Signal-to-noide Ratio: 46dB (coluor/ B/ W 3-hour mode) Horizontal Resolution: 240 lines (color mode) 320 lines (B/ W)
Audio	Head: Audio/ Control: 1 stationary head Erase: 1 full track erase 1 Audio track erase Track: 1 track Input Level: LINE IN ;(PHONO) －10dBv, 47kΩ unbalanced MIC IN;(3mm) － 60dBv,600Ω unbalanced Output Level: LINE OUT ;(PHONO) －8dBv, 1kΩ unbalanced Frequency Responce: 50Hz～10kHz (3-hour mode) Signal-to-Noise Ratio: better than 42dB (3-hour mode)

ITEM	SPECIFICATIONS
Television System	CCIR Standard (625 lines, 50 fields) PAL Colour Signal
Tape Speed	3-hours mode: 23.39mm/ s 6-hours mode: 11.69mm/ s 12-hours mode: 4.678mm/ s 24-hours mode: 2.599mm/ s Recording Time Mode: 3/ 6/ 12/ 24 hours FF/ REW Time: Approx. 3min. with NV-T120
Tape Format	Tape width 1/ 2" (12.7mm) high density VHS tape
Operating Condition	Temperature: 5℃ ～ 40℃ Humidity: 35% ～ 80%
Dimension	270mm (W) × 344.5mm (D) × 120mm (H)
Weight	5.0kg
Optional Accessories	Wired remote controller: AG-A11

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

INTRODUCTION

This Service Manual contains the technical information which service personnel to understand and service the Panasonic VHS Time Lapse Recorder model AG-6124.
Please use the this service manual together with the Service Manual for mechanical adjustments and maintenance procedures of K-Mechanism (Order No. VSD9402M632).

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads connectors, control shafts,etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M ohm and 5.2 M ohm.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k ohm, 10 watts resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

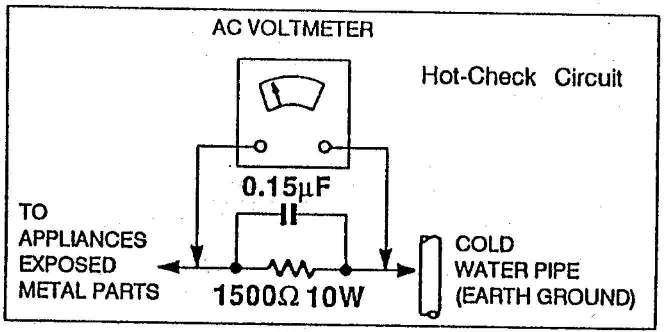

AC VOLTMETER
Hot-Check Circuit
0.15µF
TO APPLIANCES EXPOSED METAL PARTS
1500Ω 10W
COLD WATER PIPE (EARTH GROUND)

Figure 1

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
   Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as anti-static can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package untillmmediately before you are ready to install it. (Most replacementES devices are packaged with leads eletcrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all otner asfety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

Caution for AC Mains Lead

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362. Check for the ASTA ◈ mark or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

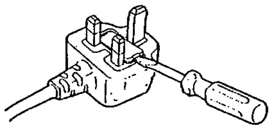
Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

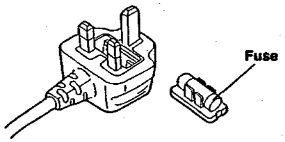
- The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
- The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.
- Under no circumstances should either of these wires be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol ⏚.

How to replace the fuse

1. Open the fuse compartment with a screwdriver.



2. Replace the fuse.



☐ is the safety information.

Lithium Battery

Warning
The lithium battery in this equipment must only be replaced by qualified personnel. When necessary, contact your local Panasonic supplier.

"The lithium battery is a critical component (type number VL2330/1HF manufactured by Panasonic.)

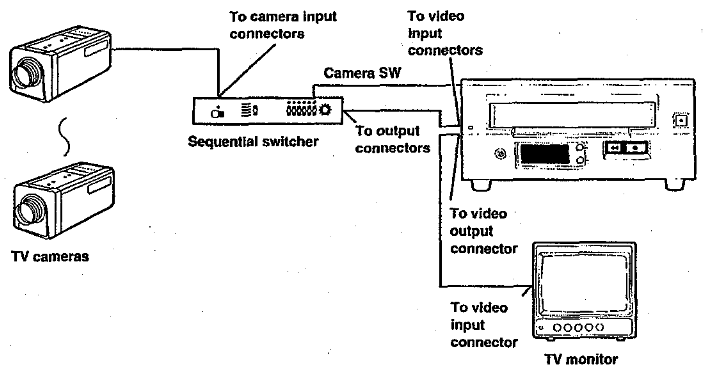
It must never be subjected to excessive heat or discharge. It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacturer. They must be fitted in the same manner and location as the original battery, with the correct polarity connections observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose. It should be disposed of in waste products destined for burial rather than incineration."

Example of VTR Monitoring/Observation System

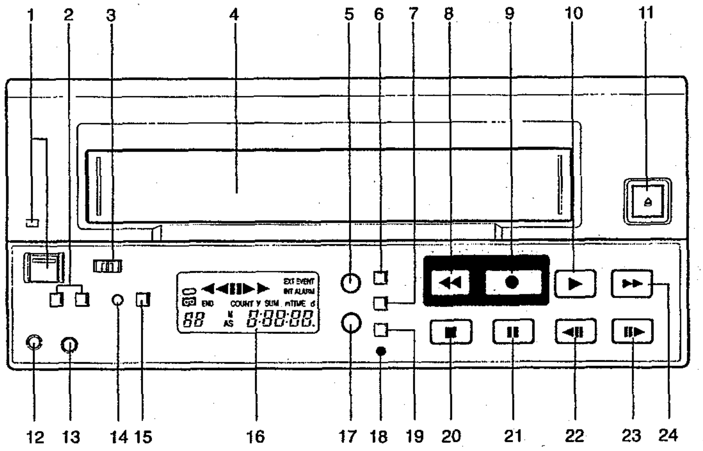
Example of system using a sequential switcher



- Video cameras equipped with a gen-lock synchronizing capability are recommended for a system configured with a sequential switcher.

Do not supply the signals of a colour camera and black-and-white camera simultaneously to the camera input connectors. This may cause sync fluctuations on the monitor screen or generate noise.

Parts And Their Functions



❶ **VTR switch/STANDBY lamp**
The power is tuned on when this switch is pressed, and lamp goes off. When the switch is pressed again, the power is turned off and the lamp lights.

❷ **Tracking (–, +) buttons**
These buttons are used to adjust the tracking. If noise appears on the playback picture, press the buttons to adjust the tracking is such a way that the picture is made as clear as possible. When both buttons are pressed together, the tracking is adjusted automatically.

❸ **MENU/REC LOCK switch**
When this switch is set to REC LOCK, the time mode and operation buttons as well as the power switch cannot be operated while recording is in progress.
When it is set to MENU, the menu screen appears.

❹ **Cassette holder**
This is the loading slot for the video cassette.

❺ **REC display lamp**
This lamp lights while recording is in progress. It goes off when recording is reset.

❻ **RESET button**
When this button is pressed, the counter display is reset to 0:00:00.

For Swedish and Danish Customers

- Aven om denna omkopplare är i "OFF"-läge, gar fortfarande en del av apparaten nätspänning.
- Selv om denne omskifter er i "OFF" stilling, tiløres en del af apparatet stadig strøm.

❼ **COUNTER/SEARCH selector button**
When this button is pressed, the display on the display panel changes to time, counter, counter memory and alarm search.
The "M" mark appears on the display panel in the counter memory mode. When the tape is fast forwarded or rewound in this mode, the counter will automatically stop when 0:00:00 is approached. The "AS" mark appears on the display panel in the alarm search mode. When the tape is fast forwarded or rewound in this mode, the unit is automatically set to still-picture playback at the alarm recording section.

❽ **REW button**
When this button is pressed, the tape is rewound. When it is kept depressed during playback, the review mode is established. When the button is pressed during recording, the tape runs temporarily in the reverse direction, and after the recorded section has been played back, the unit is returned to the recording mode.

❾ **REC button**
Recording starts when this button is pressed.

❿ **PLAY (page) button**
Playback starts when this button is pressed. The pages on the menu screen are advanced when the button is pressed while a menu screen is displayed.

⓫ **EJECT button**
This is used to eject the video cassette.

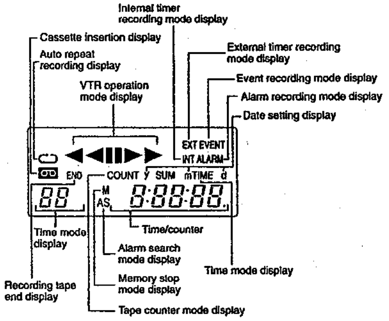
⑫ **REMOTE control connector**
For connecting the AG-A11 remote controller which is available as an optional accessory.

⑬ **MIC input jack**
Input jack (3 mm) for an external microphone.
This jack has precedence when signals are supplied simultaneously to this jack and the audio input connectors.

⑭ **INT TIMER display lamp**
This lights when internal timer recording has been set.

⑮ **TIMER MODE (REC MODE) button**
This is the operation button for internal timer recording or external timer recording. The displays shown below light on the display panel.
INT: At the times set by the internal timer, the power is automatically turned on or off and recording starts or stops.
No display: When timer recording is not performed.
EXT: When the external power is turned on, recording starts automatically.

⑯ **Display panel**


Internal timer recording mode display
Cassette insertion display
Auto repeat recording display
VTR operation mode display
External timer recording mode display
Event recording mode display
Alarm recording mode display
Date setting display
EXT EVENT
INT ALARM
END
COUNT
SUM
TIME
d
M
AS
Time mode display
Time/counter
Alarm search mode display
Memory stop mode display
Time mode display
Recording tape end display
Tape counter mode display

- Operation mode displays

Operation mode	Display
Playback	▶
Recording	▶ REC lamp lights.
Still picture	❚❚
Recording pause	❚❚ REC lamp lights.
Recording check	▶ REC lamp lights.
Fast forwarding	▶▶
Rewinding	◀◀
Cue	▶▶
Review	◀◀
Forward field advance	❚❚
Reverse field advance	❚❚

- Error messages
An error code appears when trouble has occurred during operation.
E-2: Trouble in video cassette insertion area
E-3: Trouble in video cassette tape loading area
E-4: Trouble in cylinder area
E-5: Trouble in tape transport area
d: Formation of condensation (dew)

⑰ **ALARM display lamp**
This remains lighted while alarm recording is in progress. It flashes when alarm recording ends.

⑱ **SUMMER TIME button**
This is used to switch between the present time and summer (daylight saving) time.

⑲ **TIME MODE button**
This is used to select the recording and playback time mode. Each time this is pressed, the time mode changes in the following sequence:

→ 3 → 6 → 12 → 24

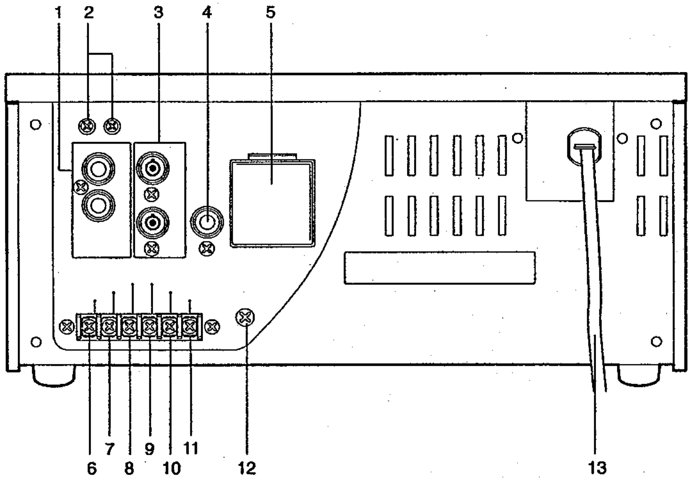
⑳ **STOP (shift) button**
When this is pressed, the tape stops traveling. When it is pressed while a menu screen is displayed, the setting items move downward.

㉑ **PAUSE/STILL (shift) button**
When this is pressed during recording, the tape temporarily stops traveling. When pressed during playback, the tape temporarily stops traveling, and a still picture appears on the TV monitor. When pressed again, the tape travel resumes.
When it is pressed while a menu screen is displayed, the setting items move toward the right.

㉒ **Field REV ADV (set) button**
When this is kept depressed during still-picture playback, the picture is advanced field by field in the reverse direction. When it is released, the still picture reappears. When a menu screen is displayed, it is used to change an item (decrement a value).

㉓ **Field FWD ADV (set) button**
When this is kept depressed during still-picture playback, the picture is advanced field by field in the forward direction. When it is released, the still picture reappears. When a menu screen is displayed, it is used to change an item (increment a value).

㉔ **FF button**
When this is pressed, the tape is fast forwarded. When it is kept depressed during playback, the unit is placed in the cue mode.


1
2
3
4
5
6
7
8
9
10
11
12
13

❶ **Audio input/output connectors**
Audio input/output connectors (phono jacks)

❷ **Vertical hold controls (3h, 6h)**
When the image on the TV monitor runs vertically during still-picture playback, adjust these controls by turning them with a small screwdriver.

❸ **Video input/output connectors**
Video input/output connectors (BNC); connect the input connector to the video camera, etc. and the output connector to the TV monitor, etc.

❹ **Camera switching output connector**
Camera switching output connector; connect it to the sequential switcher.

❺ **Battery installation area**
Install the battery in this area. See "Lithium Battery" on page 3.

❻ **Alarm input connector**
Alarm recording input connector; connect it to the external sensor.

❼ **Ground terminal**

❽ **Alarm reset connector**
Input connector for releasing alarm recording; a +4 to +14V DC voltage is required.

❾ **SUMMER TIME connector**
This is used to switch between the present time and summer time. (See page 14.)

❿ **Tape end output connector**
When the cassette tape comes to its end during recording, the alarm device installed externally is activated.

⓫ **Auto off output connector**
When trouble has occurred in the unit, the alarm device installed externally is activated.

⓬ **Ground terminal**

⓭ **Power cable**

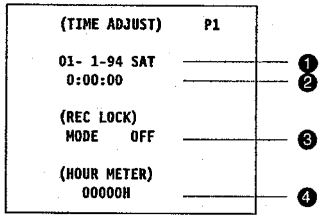
Menu Screens

One of the menu screens appears on the TV monitor when the MENU/REC LOCK switch is set to MENU. The display returns to the regular screen when this switch is set to OFF.

- When a menu screen has appeared, the items are set using the page, shift and set buttons.
- Advance through the pages ("page up") of the menu screen using the page button.
- Move the items (downward or toward the right) using the shift button.
- Change the items (increment or decrement the values) using the set button.

MENU SCREEN 1

In addition to the date and time display and the recording mode lock setting which appear on the TV monitor, the hour meter is displayed on Menu Screen 1.



```
(TIME ADJUST)     P1

01- 1-94 SAT
 0:00:00

(REC LOCK)
 MODE    OFF

(HOUR METER)
  00000H
```

❶ **Date setting (see page 12)**

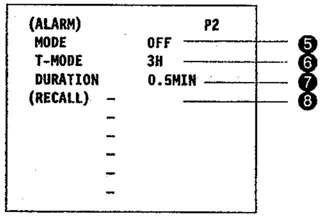
❷ **Time setting (see page 12)**

❸ **Recording mode lock**

❹ **Hour meter (see page 18)**
This indicates the unit's total operation time (the cumulative total for the cylinder rotation time).

MENU SCREEN 2

The alarm recording mode is set on Menu Screen 2.



```
(ALARM)              P2
 MODE       OFF
 T-MODE     3H
 DURATION   0.5MIN
(RECALL)   -
           -
           -
           -
           -
           -
```

❺ **Alarm recording mode selection (see page 26)**
The recording mode in the event of an alarm input is selected. (OFF → ALARM → EVENT)

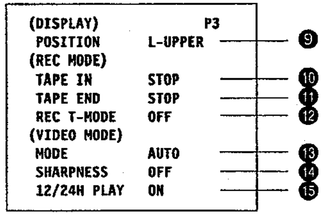
❻ **Alarm recording time mode selection**
When there is an alarm input during recording in the time lapse mode, the recording time mode is switched to the designated mode, and the details of the alarm status are recorded faithfully. (3H/6H)

❼ **Alarm recording duration setting**
This sets the time elapsing from the start of alarm recording until its end. This time can be set in 30-second increments from 0.5 to 3 minutes. (0.5 → 1.0 → 1.5 → 2.0 → 2.5 → 3 → CONTINUE → MANUAL)
CONTINUE: Alarm recording continues until the tape end.
MANUAL: Alarm recording is performed while the alarm input continues.

❽ **Alarm recall (see page 28)**
This checks the input times (up to 6) of the alarm signals.

MENU SCREEN 3

The position of the display on the TV monitor and VTR modes are selected on Menu Screen 3.



```
(DISPLAY)              P3
 POSITION     L-UPPER
(REC MODE)
 TAPE IN      STOP
 TAPE END     STOP
 REC T-MODE   OFF
(VIDEO MODE)
 MODE         AUTO
 SHARPNESS    OFF
 12/24H PLAY  ON
```

❾ **Display position selection (see page 15)**
This selects the position of the date/time display on the TV monitor. (L-UPPER → R-UPPER → L-BOTTOM → R-BOTTOM → CENTRE→ OFF)

❿ **Selection of VTR operation when cassette is inserted**
STOP: Stop mode
REC: Simply by inserting the cassette tape, recording is started automatically.
REW → REC: When the cassette is inserted, it is first rewound to the start of the tape and then recording is started automatically.

⓫ **Selection of operation when tape end is detected during recording (see page 24)**
STOP: Stop mode
REW: The tape is automatically rewound to the start where it stops.
REPEAT: The tape is automatically rewound to the start, and recording is repeated.

⓬ **Recording time mode selection**
When recording starts, the set time mode is always established. (OFF → 3H → 6H →12H → 24H)
OFF: Any time mode can be set using the TIME MODE button on the front panel. It can be changed even while recording is in progress.

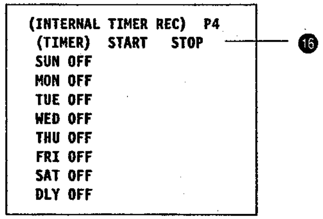
⓭ **Video signal mode**
This selects the operation of the colour/black-and-white automatic selector circuit.
AUTO: The circuit automatically identifies the type of video input or playback signals, and selects the colour or black-and-white mode accordingly.
B/W: The black-and-white mode is forcibly established.

⓮ **Playback picture quality selection**
The outlines of the playback images can be emphasized.
OFF: Regular mode
ON: The playback picture has emphasized outlines.

⓯ **12-/24-hour time mode playback system**
This selects the system in which a tape is to be played back in the time lapse mode. It is set to ON for playing back a tape which was recorded in the 12-/24-hour time mode.

MENU SCREEN 4

The internal timer recording modes are set on Menu Screen 4.



```
(INTERNAL TIMER REC)  P4
 (TIMER)  START   STOP
 SUN OFF
 MON OFF
 TUE OFF
 WED OFF
 THU OFF
 FRI OFF
 SAT OFF
 DLY OFF
```

⓰ **Internal timer recording mode setting (see page 19)**
This sets the weekly timer or daily timer recording mode. (OFF/ON)
OFF: Internal timer recording is not set.
ON: Internal timer recording is set. (The start and stop times are set.)

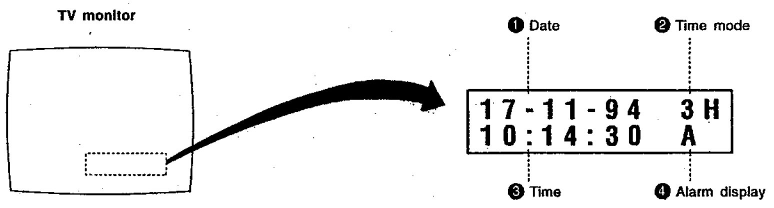
Note: Internal timer recording does not operate when the date and time have not been set.

CAUTION:

- The menu screens are not displayed while the unit is playing back a tape.

Date and Time Settings

This unit comes with a time/date generator which enables the date and time to be superimposed on the recording. When the power is switched on, the date, time of the day and time mode are displayed (in the case of a regular screen).



❶ **Date:**
The date appears as day/month/year.
❷ **Time mode:**
This is set by pressing the TIME MODE button. It flashes unless recording is in progress.
❸ **Time:**
The 24-hour system is used.
❹ **Alarm display:**
This appears during alarm recording.

Step	Operation	Monitor display	Display area
	Example: Setting the date and time to Friday, February 17, 1995 at 3:25. The time mode is set to 24 hours.		
1	Set the MENU/REC LOCK switch to MENU. Menu Screen 1 appears, and the year digits flash. MENU ☐ OFF REC LOCK ⇦	Menu Screen 1 (TIME ADJUST) P1 01- 1-94 SAT 0:00:00	y m d 94:01 01
2	Press the SET (+, –) buttons to set the year to "95." ◀▮▮ ▮▮▶ – SET +	(TIME ADJUST) P1 01- 1-95 SUN 0:00:00	y m d 95:01 01
3	When the shift (>) button is pressed, the month digits flash. Press the SET (+, –) buttons to set the month to "2." PAUSE/STILL ▮▮ REV ◀▮▮ FWD ▮▮▶ > – SET +	(TIME ADJUST) P1 01- 2-95 WED 0:00:00	y m d 95:02:01
4	When the shift (>) button is pressed, the day digits flash. Press the SET (+, –) buttons to set the day to"17". ▮▮ ◀▮▮ ▮▮▶ > – SET + • The year can be set from 1994 to 2009.	(TIME ADJUST) P1 17- 2-95 FRI 0:00:00	y m d 95:02:17
5	When the shift (V) button is pressed, the hour digits flash. Press the SET (+, –) buttons to set the hour to "3." ■ ◀▮▮ ▮▮▶ V – SET +	(TIME ADJUST) P1 17- 2-95 FRI 3:00:00	TIME 3:00.
6	When the shift (>) button is pressed, minute digits flash. Press the SET (+, –) buttons to set the minutes to "25." ▮▮ ◀▮▮ ▮▮▶ > – SET +	(TIME ADJUST) P1 17- 2-95 FRI 3:25:00	TIME 3:25
7	When the MENU/REC LOCK switch is set to OFF, the clock automatically starts running from time and date set. MENU ☐ OFF REC LOCK For the seconds, "00" is set. Even when the switch is set to MENU, the time will keep advancing if it has not been changed.	(TIME ADJUST) P1 17- 2-95 FRI 3:25:00	TIME 3:25.

- To clear the date and time display, set POSITION under (DISPLAY) on Menu Screen 3 to OFF.
- Even if the power should fail for a period of up to one week, the date, time and other display (internal timer setting, alarm recall) data is stored in the memory (but only if power has been supplied continuously to the unit for 3 or more days). When the unit has just been purchased or when it has not been used for along time, the data is not stored in the memory and the display shown below appears.

(TIME ADJUST) P1 01- 1-94 SAT 0:00:00	All the internal timer settings are set to OFF, and the alarm recall display is cleared.

- For the date setting, the unit automatically adjusts for leap years.
- Due to temperature fluctuations and other factors, the clock time may run fast or slow with a monthly error of up to ±60 seconds. This is not indicative of malfunctioning. Reset the time at regular intervals.

Summer time setting

When the SUMMER TIME button is pressed with a small screwdriver, the time is automatically advanced by one hour, and at the same time "SUM" appears on the display. When the button is pressed again, the time returns to its original setting, and at the same time "SUM" disappears from the display.

- The above settings can also be performed at the SUMMER TIME connector on the rear panel.

- The following phenomenon occurs when the date and time are set with the summer time setting.

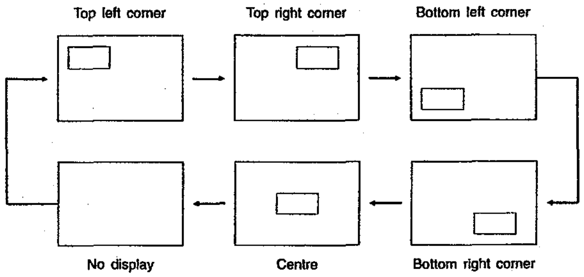
  <Example> 31 - 12 - 1995 (SUN) 23:22:00

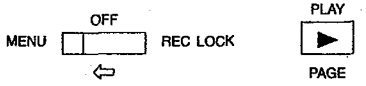
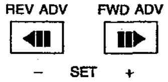
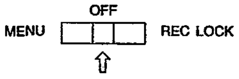
  When the "hour" has been changed, be absolutely sure to check that the date is correct.

"Hour" setting	Date	Example
23 → 0	Moved up by 1 day	1 - 1 - 1996 (MON) 0:22:00
0 → 1	Moved down by 1 day	31 - 12 - 1995 (SUN) 1: 22:00
1 → 0	Moved up by 1 day	1 - 1 - 1996 (MON) 0:22:00
0 → 23	Moved down by 1 day	31 - 12 - 1995 (SUN) 23:22:00

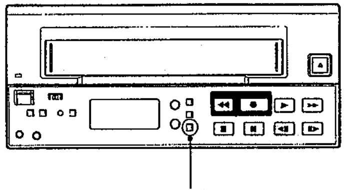
Time/Date Display Position

The position of the date and time displays on the TV monitor changes as shown below when (DISPLAY) on Menu Screen 3 is changed.



Step	Settings and operation	TV monitor display
1	Set the MENU/REC LOCK switch to MENU to display to menu screens. Press the page button to display Menu Screen 3 on the TV monitor. 	Menu Screen 3 (DISPLAY) P3 POSITION L-UPPER (REC MODE) TAPE IN STOP TAPE END STOP REC T-MODE OFF (VIDEO MODE) MODE AUTO
2	Press the set (+, –) buttons to position the display as desired. 	(DISPLAY) P3 POSITION L-BOTTOM (REC MODE) TAPE IN STOP REPEAT REC ON REC T-MODE OFF
3	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored, and the date and time appear at the selected position. 	25- 6-94 24H 4:15:23

Time Mode Selection



Refer to the table given below to select the mode that suits the intended purpose of use.

Tape type / Mode	Recordable time (hours)				Video recording interval (sec.)	Sound recording	Camera switching interval (sec.)	Tape travel method
	NV-E180	NV-E120	NV-E90	NV-E60				
3 hours	3	2	1.5	1	1/50	Yes	0.04	Continuous travel at 23.39 mm/sec.
6 hours	6	4	3	2	1/50	Yes	0.04	Continuous travel at 11.69 mm/sec.
12 hours	12	8	6	4	0.1	Yes	0.1	Continuous travel at 4.678 mm/sec.
24 hours	24	16	12	8	0.18	Yes	0.18	Continuous travel at 2.599 mm/sec.

Notes on operation

- This unit is designed with the NV-E180 cassette tape as a reference.
- Depending on the type of video cassette used, the recordable time will differ.
- Sound can be recorded in all time modes.
- The 12- and 24-hour modes are time lapse modes. Pictures are recorded with frames skipped to enable lengthy recording and playback.
- A tape recorded in a time lapse (12-/24-hour) mode can be played back in quick motion in the 3-hour mode.
- A tape recorded in the 3-hour mode can be played back in slow motion using the time lapse (12-/24-hour) mode.
- A tape recorded in the 6-hour (or 3-hour) mode cannot be played back in the 3-hour (or 6-hour) mode.
- When a tape recorded on the 6-hour mode is played back in another mode, colour programme is played back in black and white, but this is not a malfunction.

Selecting the cassette tape

The unit is designed as a product required to exhibit high reliability in surveillance, security, monitoring, etc. In order to maintain its recording reliability, it is recommended that the Panasonic video tapes listed below be used.

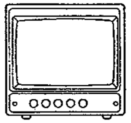
<VHS tapes>
- NV-E180
- NV-E120
- NV-E90
- NV-E60

- Avoid using 240-minute tapes with this unit.

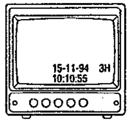
Recording Procedure

❶ Switch on the power to the connected equipment.

❷ Adjust so that the images of the video cameras appear properly on the TV monitor.



❸ Check that the date and time displayed on the TV monitor have been adjusted properly.



❹ Insert a cassette tape into the unit after checking that the tab on the cassette is intact.

❺ Set the timer recording, auto repeat recording, alarm recording, restoration-of-power-after-failure recording or other recording function.

❻ Select the time mode for the recording.

❼ Press the REC button.

Notes on operation

- If the PAUSE/STILL button is pressed during recording, the unit is set to the pause mode, and after about 5 minutes in this mode it is transferred to the stop mode.
- Neat frame-to-frame continuity is not achieved if the recording mode is set again after the PAUSE/STILL button is pressed during recording.
- When the MENU/REC LOCK switch has been set to OFF, other operations can be performed during recording.
- When restoration-of-power-after-failure recording is performed,recording can be continued in the same time mode even if the power should fail provided that the power is restored within about one week. (This applies only if the power has been supplied continuously for 3 or more days.)
- When performing auto repeat recording or timer recording, do not neglect to conduct the routine inspections.
- When recording images from a black-and-white camera, set the video signal mode on Menu Screen 3 to B/W.

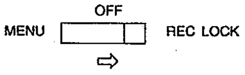
Tips For Better Recording

In order to ensure greater reliability in monitoring, surveillance and other continuous operations lasting many hours, this unit comes with some safety functions for recording. Read the following descriptions of these functions before proceeding to operate the unit.

Recording mode lock

There are two ways, as described below, to maintain the recording mode during recording by disabling the operations of the power switch as well as the TIME MODE and operation buttons.

❶ Set the MENU/REC LOCK switch to REC LOCK.

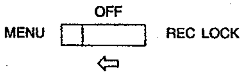


❷ Set REC LOCK on Menu Screen 1 to ON. (See Note)

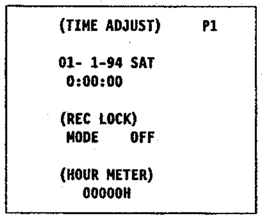
The following switch and connectors are operational even if the MENU/REC LOCK switch is set to REC LOCK.
- Alarm input connector, alarm reset connector
- REC REVIEW

Hour Meter

By showing for how many hours the unit has been used, this meter provides useful information for regular inspection, maintenance and servicing involving the cleaning and replacement of the inside parts, etc. When the MENU/REC LOCK switch is set to MENU, the hour meter will appear on the TV monitor together with the date and time settings.



Menu Screen 1



```
(TIME ADJUST)     P1

01- 1-94 SAT
 0:00:00

(REC LOCK)
 MODE     OFF

(HOUR METER)
  00000H
```

The regular screen is restored when the MENU/REC LOCK switch is set to OFF.

Recording check

When the REW button is pressed during recording, the tape runs temporarily in the reverse direction, and the recorded section is played back. This function can be used to check the daily operation of the equipment in the system.

Restoration-of-power-after-failure recording

When a power failure has occurred during recording, the unit automatically starts recording if the power is restored within approximately one week.
- When the power fails, the tape "losing" safety protection function is activated to protect the video heads and video tape.

Before power is restored	After power is restored
• Stop, play, fast forward	Stop mode is established.
• Recording	Recording mode is established.
• Auto rewind • Auto rewind during auto repeat recording	Unit is returned to the mode applying before the power failed.

- If the power is restored more than one week after it failed, the unit is automatically set to the EXT REC mode and recording commences in the 24H mode. However, unless REC T-MODE on menu screen 3 has been set to OFF, recording will commence in the time mode set.

Note:
Once the recording mode is established, recording cannot be released until REC LOCK on Menu Screen 1 is set OFF.

Timer Recording

There are two methods of timer recording: one uses the internal timer and the other uses an external timer.

Internal timer recording

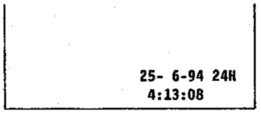
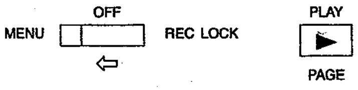
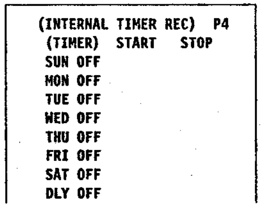
Start time and stop time

Bear in mind the following points when setting these times.

- **When the stop time is set later than the start time:**
  Example: 8:30 < 17:00
- **When the start time is set later than the stop time or the start time and stop time for weekly recording (weekly timer) are the same:**
  Recording starts at the start time on the day concerned and ends at the stop time on the following day.
  Example: 17:00 < 8:30
- **When the start time and stop time are the same:**
  Recording starts at 8:30 on the day concerned and ends at 8:30 on the following day.
  Example: 8:30 = 8:30
  To record for an entire day, set the start time and stop time to 00:00.

- Weekly recording (weekly timer) can be set by the day of the week.
- When (INTERNAL TIMER REC) on Menu Screen 4 is set to OFF for both the weekly timer and daily recording (daily timer), nothing appears for the start or stop time. Timer recording is considered not to be set.

Internal timer recording operation

Step	Operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Check that the TV monitor shows the correct present time.	 25- 6-94 24H 4:13:08
3	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button so that the INTERNAL TIMER REC timer setting screen appears on the TV monitor.  	Menu Screen 4  (INTERNAL TIMER REC) P4 (TIMER) START STOP SUN OFF MON OFF TUE OFF WED OFF THU OFF FRI OFF SAT OFF DLY OFF

Step	Operation	TV monitor display
4	Set the operation times of the internal timer. • For details on the settings, refer to the sections on "Daily timer" or "Weekly timer." (See pages 21 to 22)	
5	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored. OFF MENU ☐☐☐ REC LOCK	25- 6-94 24H 4:15:23
6	Press the TIMER MODE (REC MODE) button so that INT lights on the display. (The internal timer lamp also lights.) TIMER MODE ☐ ⇨ INT Display When a cassette with a broken out tab has been inserted, the internal timer lamp flashes, and INT on the display also flashes. When the recording time arrives, nothing will be recorded.	

VTR operations after the settings

- The unit's power is turned off, and even if other buttons are pressed, their operations are not accepted.
- When the start time and stop time have not been set, INT flashes on the display.
- Even when the power should fail, the start and stop times set for timer recording are stored in the memory provided that the power is restored within a week or so (but only if power has been supplied continuously to the unit for 3 or more days).
- When the unit has just been purchased or when it has not been used for a long time, the start and stop times are not stored in the memory.

Releasing the internal timer mode

Press the TIMER MODE (REC MODE) button to clear INT on the display.

Note:
- Since it takes some moments for recording to start, set the start time for timer recording one minute earlier.

Weekly Recording (Weekly Timer)/Daily Recording (Daily Timer)

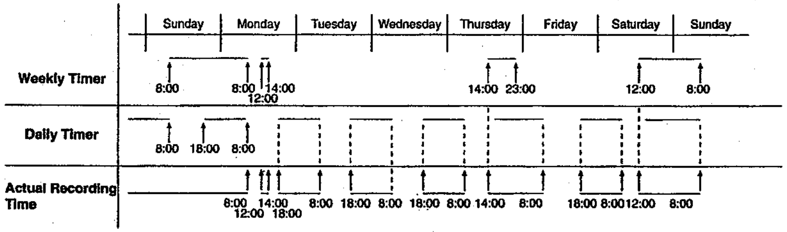
Step	Selection and operation	TV monitor display
	When recording from 8:30 to 12:00 from Sunday through Thursday and from 9:00 to 12:00 on Fridays and Saturdays	
1	Check that OFF or ON for Sunday (SUN) is flashing. If the setting is OFF, press the set (+, –) buttons to display ON. REV ADV ◀▮▮ FWD ADV ▮▮▶ – SET +	Menu Screen 4 (INTERNAL TIMER REC) P4 (TIMER) START STOP SUN OFF MON OFF
2	When the shift (>) button is pressed, the setting moves to the start time and the "hour" digits flash. PAUSE/STILL ▮▮ >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 0:00 0:00 MON OFF
3	Press the set (+, –) buttons to display "8." REV ADV ◀▮▮ FWD ADV ▮▮▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:00 0:00 MON OFF
4	When the shift (>) button is pressed, the "minutes" digits flash. PAUSE/STILL ▮▮ >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:00 0:00 MON OFF
5	Press the set (+, –) buttons to display "30." REV ADV ◀▮▮ FWD ADV ▮▮▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 0:00 MON OFF
6	When the shift (>) button is pressed, the "hour" digits flash. PAUSE/STILL ▮▮ >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 0:00 MON OFF
7	Press the set (+, –) buttons to display "12." REV ADV ◀▮▮ FWD ADV ▮▮▶ – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 12:00 MON OFF

Step	Selection and operation	
8	When the shift (>) button is pressed, the "minutes" digits flash. PAUSE/STILL >	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 12:00 MON OFF
9	Press the set (+, –) buttons to display "00." REV ADV FWD ADV – SET +	(INTERNAL TIMER REC) P4 (TIMER) START STOP SUN ON 8:30 12:00 MON OFF
10	Following the same procedure in steps 1 to 9, display the start time of "8:30" and stop time of "17:00" from Monday (MON) through Thursday (THU). Following the above procedure, set the times for Friday (FRI) and Saturday (SAT) as well. In this way, the timer operation times have been set for each day of the week. The settings for daily recording (daily timer) are also performed following the same steps 1 to 9.	

- When daily recording and recording by day of the week are to be conducted together, the timer recording operations will be as shown below when the time settings are as follows.

```
(INTERNAL TIMER REC)  P4
(TIMER)  START  STOP
SUN ON    8:00   8:00
MON ON   12:00  14:00
TUE OFF
WED OFF
THU ON   14:00  23:00
FRI OFF
SAT ON   18:00   8:00
DLY ON   18:00   8:00
```

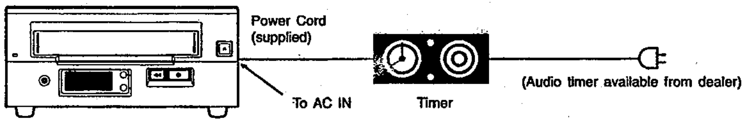
The setting shown on the screen at the left translates into the weekly and daily timer recording combinations shown below which, in turn, means that the actual recording time on the tape is shown at the bottom.



- The day of the week time settings are displayed, enabling the settings to be checked for each day of the week.
- Proceed with the setting with due consideration given to the total recording time since a 180-minute tape is long enough to provide recording for up to 24 hours only.

External Timer Recording

The unit can be made to record using an external timer to turn on its power.



External timer recording operations

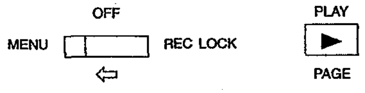
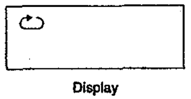
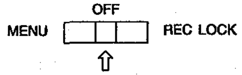
Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Press the TIMER MODE (REC MODE) button so that EXT lights on the display. At the set time, power is supplied from the external timer and the unit is set to the recording mode. TIMER MODE ☐ ⇨ EXT Display	

- If the video cassette tape has not been inserted or if its accidental erasure prevention tab has been broken, EXT will flash on the display, and external timer recording cannot be conducted.
- Since it takes some moments for recording to start, set the start time for timer recording one minute earlier.

Auto Repeat Recording/Auto Rewinding

Auto repeat recording: This function automatically rewinds the cassette tape when its end is detected in the recording mode, and it repeats recording from the start of the tape.

Auto rewinding: This function automatically rewinds the tape to the start when the tape end is detected in the recording mode.

Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display Menu Screen 3 on the TV monitor.  OFF MENU REC LOCK PLAY PAGE	Menu Screen 3 (DISPLAY) P3 POSITION L-UPPER (REC MODE) TAPE IN STOP TAPE END STOP REC T-MODE OFF (VIDEO MODE) MODE AUTO SHARPNESS OFF 12/24H PLAY OFF
3	Press the shift (V) button to move the flashing to TAPE END. Press the set (+ or –) button to display REPEAT for auto repeat recording or REW for auto rewinding. STOP REV ADV FWD ADV V – SET +	(DISPLAY) P3 POSITION L-UPPER (REC MODE) TAPE IN STOP TAPE END REPEAT REC T-MODE OFF
4	"↻" lights on the display.  • If auto rewinding has been selected, "↻" is cleared.	
5	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.  OFF MENU REC LOCK	25- 6-94 24H 4:15:23

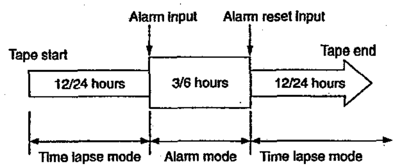
Notes of operation

- When auto repeat recording is to be performed, do not neglect the routine inspections. Since the image deteriorates when the same tape is used over and over again for auto repeat recording, replace the tape with a new one after about 50 recordings.
- Alarm signals are not accepted during auto rewinding, and so alarm recording is not performed.
- If an alarm signal is supplied during auto repeat recording, the alarm recording mode is established. If the tape then reaches its end, auto repeat recording is performed but alarm recording is released.

Alarm Recording (Emergency Recording)

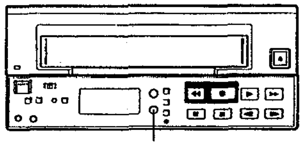
When an emergency occurs at the monitoring site during prolonged monitoring and recording, the alarm function is automatically triggered, and alarm recording is performed.

Principle of alarm recording

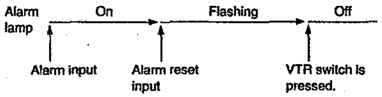

Alarm input
Alarm reset input
Tape start
Tape end
12/24 hours
3/6 hours
12/24 hours
Time lapse mode
Alarm mode
Time lapse mode

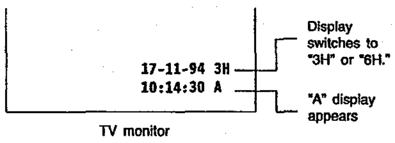
- When an alarm signal is supplied by an alarm sensor (door or intercom switch, etc.) during recording in a time lapse mode, the recording speed is switched to the 3- or 6-hour mode and the details of the state of emergency are faithfully recorded.

Alarm and display methods during alarm recording

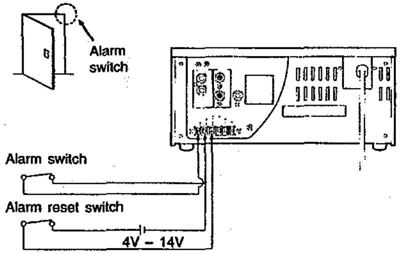

ALARM display lamp

- When an alarm signal is supplied, the alarm display lamp functions as follows.


Alarm lamp
On
Flashing
Off
Alarm input
Alarm reset input
VTR switch is pressed.

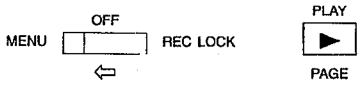
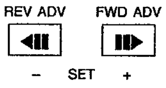
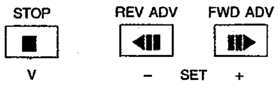
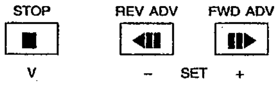
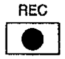

17-11-94 3H
10:14:30 A
Display switches to "3H" or "6H."
"A" display appears
TV monitor

Connecting the alarm input connector


Alarm switch
Alarm switch
Alarm reset switch
4V – 14V

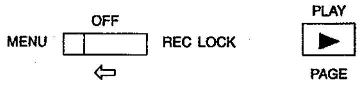
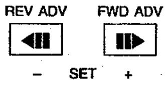
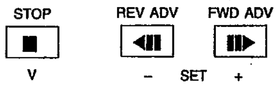
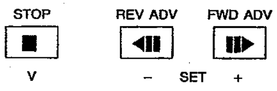
- Alarm recording starts when the alarm switch is set on. When the alarm reset switch is set ON after recording has started, alarm recording is released and operation is returned to the original time lapse recording mode.
- Alarm recording can be released by pressing the STOP button during alarm recording. However, it cannot be released even by pressing the STOP button if the MENU/REC LOCK switch is at REC LOCK or INT is lighted on the display.
- Alarm recording can be automatically reset without supplying the alarm reset input signal. The reset time can be set for 0.5, 1.0, 1.5, 2.0, 2.5 or 3.0 minutes.
- Another option is alarm recording only while the alarm input signal is supplied.
- Alarm recording is also possible as far as the end of the tape.

Alarm recording operation

Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display the alarm recording setting screen (Menu Screen 2) on the TV monitor. 	(ALARM) P2 MODE OFF T-MODE 3H DURATION 0.5MIN (RECALL) - - -
3	Press the set (+ or –) button to display ALARM for MODE. 	(ALARM) P2 MODE ALARM T-MODE 3H DURATION 0.5MIN (RECALL) - -
4	Press the shift (V) button to move the flashing to T-MODE. Press the set (+ or –) button to set the time mode. 	(ALARM) P2 MODE ALARM T-MODE 6H DURATION 0.5MIN (RECALL) - -
5	Press the shift (V) button to move the flashing to DURATION. Press the set (+ or –) button to set the recording duration. 	(ALARM) P2 MODE ALARM T-MODE 6H DURATION 0.5MIN (RECALL) - -
6	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.	25- 6-94 24H 4:15:23
7	Press the REC button.  If an alarm input signal is subsequently supplied, the time mode set by T-MODE changes to 6H, and alarm recording continues until the alarm is released.	

- If TAPE END on Menu Screen 3 has been set to REPEAT, the auto repeat recording mode is established when the tape comes to the end.
- With emergency recording, set the unit to the POWER OFF or STOP mode.

Event Recording

Step	Selection and operation	TV monitor display
1	Check that a video cassette with its tab intact has been inserted.	
2	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display the alarm recording setting screen (Menu Screen 2) on the TV monitor. 	(ALARM) P2 MODE OFF T-MODE 3H DURATION 0.5MIN (RECALL) - - -
3	Press the set (+ or –) button to display EVENT for MODE. 	(ALARM) P2 MODE EVENT T-MODE 3H DURATION 0.5MIN (RECALL) - -
4	Press the shift (V) button to move the flashing to T-MODE, and press the set (+ or –) button to set the time mode. 	(ALARM) P2 MODE EVENT T-MODE 6H DURATION 0.5MIN (RECALL) - -
5	Press the shift (V) button to move the flashing to DURATION. Press the set (+ or –) button to set the recording duration. 	(ALARM) P2 MODE EVENT T-MODE 6H DURATION 0.5MIN (RECALL) - -
6	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.	
7	If an alarm input signal is subsequently supplied, the time mode set by T-MODE changes to 6H, and event recording continues until the alarm is released. When event recording is released, the REC/PAUSE mode is established and the next alarm input signal is awaited.	

- Depending on the time mode setting, the unit is repeatedly set to the recording (REC) and REC/PAUSE modes as shown in the table below.

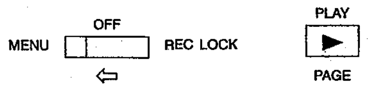
Time mode	REC	REC/PAUSE
3H	6 sec	3 min
6H	6 sec	1 min
12H	45 sec	1 min
24H	45 sec	1 min

(Durations given are approximations.)

- Proceed with the settings on the menu in the STOP or EJECT mode.
- There is some disturbance in the pictures at the joins.

Alarm Recall

The time when the alarm signal was input can be ascertained on the TV monitor by checking the alarm input time in the RECALL item on Menu Screen 2.

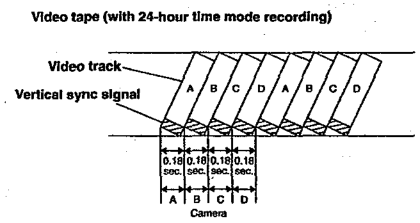
Step	Selection and operation	TV monitor display
1	Set the MENU/REC LOCK switch to MENU to display the menu screens. Press the page button to display the alarm recording setting screen (Menu Screen 2) on the TV monitor.  OFF MENU REC LOCK PLAY PAGE	(ALARM) P2 MODE ALARM T-MODE 3H DURATION 0.5MIN (RECALL) 01-10-95 20:19 14-09-95 12:05 30-08-95 08:40 25-06-95 04:14 05-05-95 09:25
2	Upon completion of the settings, set the MENU/REC LOCK switch to OFF. The regular screen is restored.	19-12-95 24H 4:15:23

- The alarm recall function stores up to 6 alarm input times in the memory and displays them on the screen. If there have been more than 6 inputs, they will be deleted from the screen in sequence starting with the oldest data.
- When the RESET button is pressed while Menu Screen 2 is on the display, the alarm recall memory can be cleared.

Sequential Switcher Connection and Recording

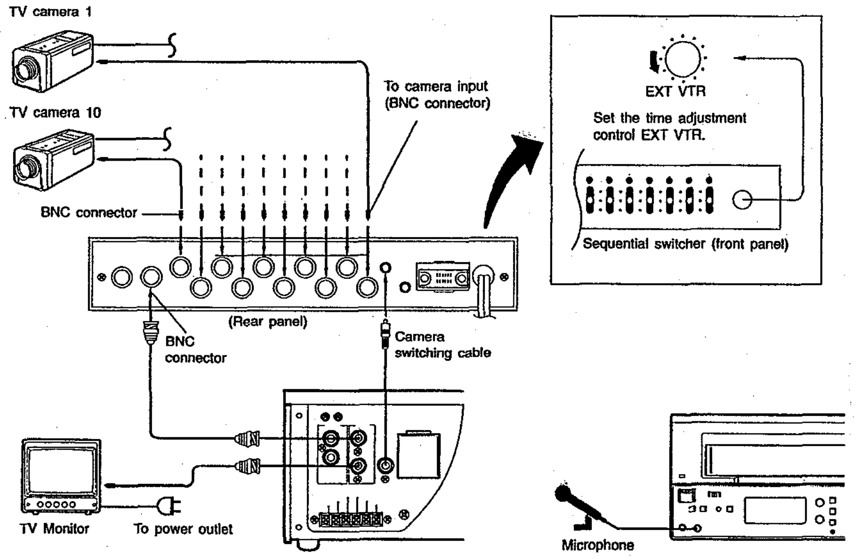
When a multiple number of cameras are used for recording, the timing at which the sequential switcher automatically switches the cameras can be controlled by this unit and the images of several cameras can be recorded.

Principle of camera switching


Video tape (with 24-hour time mode recording)
Video track
Vertical sync signal
A
B
C
D
A
B
C
D
0.18 sec.
0.18 sec.
0.18 sec.
0.18 sec.
A
B
C
D
Camera

- In the 24-hour time mode, the cameras are switched automatically at the position of the vertical sync signal each time a video track is recorded.
- The camera switching interval differs according to the time mode. (See page 16)

Connections (using the WJ-523 sequential switcher)


TV camera 1
TV camera 10
BNC connector
To camera input
(BNC connector)
EXT VTR
Set the time adjustment control EXT VTR.
Sequential switcher (front panel)
(Rear panel)
BNC
connector
Camera
switching cable
TV Monitor
To power outlet
Microphone

Notes on operation
- If the sequential switcher is not provided with an EXT TIMING facility or when cameras are not going to be switched, adjust to a longer time than the video recording duration (see page 16) in the recording time mode.
- Synchronize the TV cameras for operation.

Playback Procedure

Before operating the unit, check that the internal/external timer recording displays (INT/EXT) have been cleared from the display. (If INT or EXT is displayed, use the TIMER MODE button to clear it.)

❶ Switch on the power to the unit and TV monitor.

❷ Insert the recorded cassette tape into the unit.

❸ Select the time mode.

TIME MODE

☐

❹ Press the PLAY button.

PLAY

▶

Notes on operation

1. Bear in mind the following points when playing back parts of a tape recorded in a time lapse (12-/24-hour) mode.
   - When the tape is played back in the same mode, noise resembling dropouts will appear on the screen: this is not indicative of malfunctioning.
   - The picture may oscillate in the vertical direction: this is not indicative of malfunctioning.
   - When a tape is played back in the same time mode, the picture may shake slightly sideways: this is not indicative of malfunctioning.
   - Dancing can be minimized when "12/24H PLAY" on Menu 3 is set to ON all the times.
2. Bear in mind the following points when playing back parts of a tape recorded in a VHS mode (3 or 6 hours).
   - Set "12/24H PLAY" on Menu Screen 3 to OFF at all times. If "12/24H PLAY" is set to OFF, picture oscillating can be alleviated by the TV monitor.
   - When a tape is played back in a time lapse mode, slight noise may appear at the top and bottom of the screen: this is not indicative of malfunctioning.
   - When a tape recorded on the 6-hour mode is played back in another mode, colour programme is played back in black and white, but this is not a malfunction.
3. When noise has occurred during still-picture playback, press the FWD ADV button to play it out.
4. Bear in mind that if the power cable is disconnected and then re-connected or if the power has been restored after it has failed when the tape was played with EXT indicated on the display by the TIMER MODE button, the unit will automatically be set from playback to the recording mode.
5. When the PAUSE/STILL button is pressed during playback, the unit is set to the pause mode, and a still picture will appear on the monitor screen. To release this state, press the PAUSE/STILL button again or press the PLAY button. If the unit is kept in the pause mode for more than 5 minutes, it will be set to the stop mode.
6. If the horizontal AFC on the TV monitor is too long or when a video camera with random interlace scanning has been used, the top area of the TV monitor may be distorted: this is not indicative of malfunctioning.

Tracking

When noise such as that shown below appears on the playback image in the 3- or 6-hour time mode, press the tracking (+ or –) button to minimize the noise.

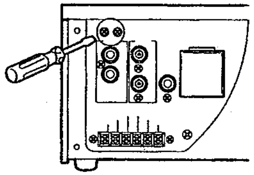
TRACKING

– ☐ ☐ +

- For the tracking default setting, press the "+" and "–" buttons together (in the 3- or 6-hour time mode only).
- In the 12- or 24-hour mode, press the "+" or "–" button to adjust the tracking.

Vertical hold adjustment

If the image shakes slightly in the vertical direction during still-picture playback, use a screwdriver or some other implement to turn and adjust the vertical hold control on the rear panel. Do not touch it under normal circumstances.



- If the TV monitor has a vertical hold control, adjust that control also.

Routine & Regular Inspection Request

This unit is designed to withstand many hours of operation. Nevertheless, it is recommended that routine inspections be conducted to help ensure trouble-free operation.

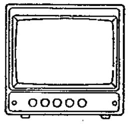
CAUTION

Do not forget to conduct the routine inspection with auto repeat recording.

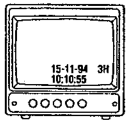
Routine inspection procedure

❶ Set the power switches on the unit, video cameras, TV monitor and other equipment connected in the monitoring system to the ON position.

❷ Is the picture on the TV monitor OK?



❸ Are the date and time displayed on the TV monitor correct?



❹ Rewind the cassette tape, which was recorded on the previous day, by an amount equivalent to a count on the counter or several figures.

REW

◀◀

❺ Press the TIME MODE button to set to the mode to 3H (3 hours).

TIME MODE

☐

3

Counter

❻ Press the PLAY button. The tape is played back by an amount equivalent to a count on the counter of several figures.

PLAY

▶

❼ Is the playback image OK?

❽ Is there any problem with the recorded date and time?

❾ Press the REC button.

REC

●

❿ Check the playback images which were recorded in the 3-hour time mode.

⓫ Upon completion of all the checks, set the unit to the desired mode.

Action taken after routine inspections

In the unlikely event of a problem with the unit, turn off the power, take hold of the power plug and disconnect it from the power outlet, and consult with the dealer from whom the unit was purchased.

Regular inspections recommended

This unit has an hour meter which shows for how many hours the VTR has been used. When the MENU/REC LOCK switch is set to MENU, Menu Screen 1 appears on the TV monitor, and the hour meter can be checked. Use the hour meter as a rough guideline to cleaning or replacing the parts inside the unit. For further details, consult with your dealer.

OFF

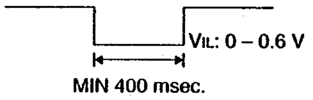
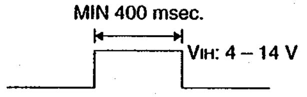
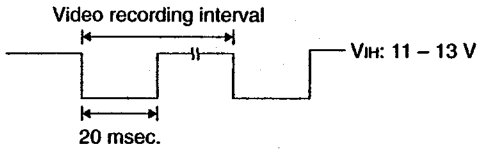
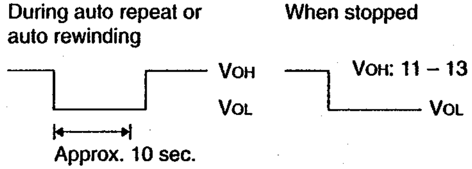
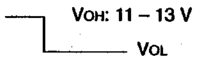
MENU ☐ REC LOCK ⇨

←

(HOUR METER)
00150H

TV monitor

Input/Output Terminal Signal Level

Terminal	Signal Level	Note
Alarm Input/Summer Time Setting Input	 VIL: 0 – 0.6 V MIN 400 msec.	LOW Input
Alarm Reset Input	 MIN 400 msec. VIH: 4 – 14 V	HIGH Input
Camera Switching Output	 Video recording interval VIH: 11 – 13 V 20 msec.	V_{OH} = 11–13V (5.6kΩ) V_{OL} = 0–0.6V (max. 3 mA)
Tape end output	 During auto repeat or auto rewinding When stopped VOH VOL VOH: 11 – 13 V VOL Approx. 10 sec.	V_{OH} = 11–13V (4.7kΩ) V_{OL} = 0–0.6V (max. 3 mA)
Auto off output	 VOH: 11 – 13 V VOL	V_{OH} = 11–13V (4.7kΩ) V_{OL} = 0–0.6V (max. 3 mA)

1-2. SERVICE INFORMATION

1-2-1. Emergency Cassette Removal

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to removing cassette manually.
There are 2 methods of removing the cassette.

A. Hand Operation

1. Remove the Bottom Plate.
2. Turn the worm gear to arrow mark direction by finger as shown in Fig.S1 until the loading post move to unloading position.
3. Turn the capstan rotor clockwise to take up the tape.
4. Turn the worm gear again to eject the cassette.

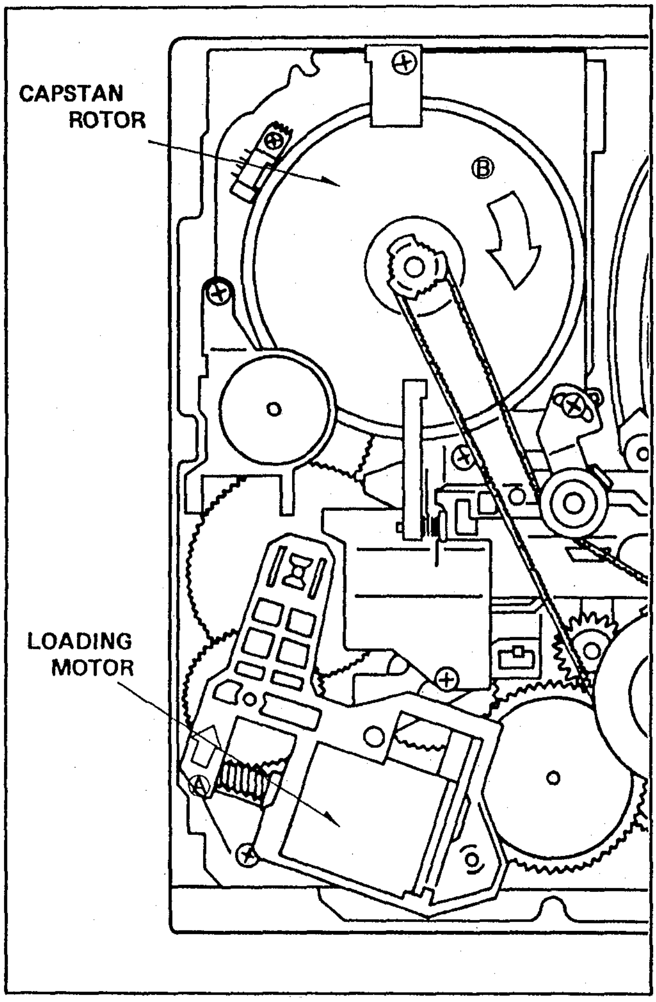


Fig. S1

B. Battery Operation

1. Remove the Bottom Plate.
2. Connect the battery (Manganese-Type (AA) 3pcs./+4.5V) to P1503 as shown in Fig.S2.
3. After moving the loading post to the unloaded position, disconnect the battery to stop the loading motor.
4. Turn the capstan rotor clockwise to take up the tape.
5. Reconnect the battery to eject the cassette.

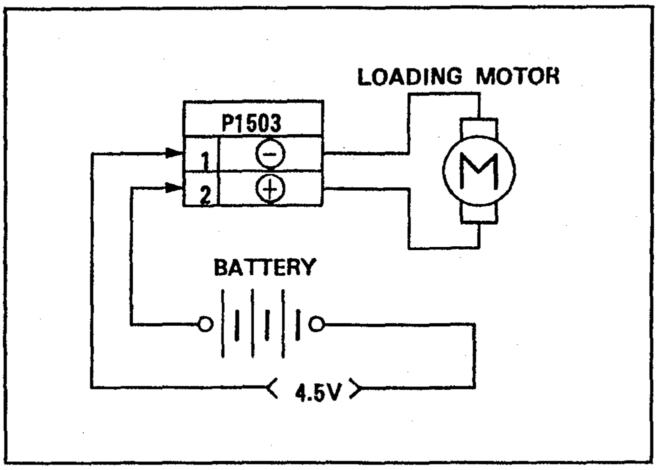


Fig. S2

1-2-2. Hour Meter Reset

1. Turn off by the power key.
2. Connect jumper wire between TP6104 and GND on the Main C.B.A.
3. Turn on unit by the power key whiles press the tracking "+" and "-" buttons simultaneously.
4. Flushing the all LCD display. (approx.4sec)
5. Hour meter reset when stop the LCD flushing.

1-2-3. Auto Off Operation & Error Code

ERROR CODE	CONTENS	CAUSE CONDITION
d	CONDENSATION (DEW)	1. If it is in POWER OFF mode,the mode turns to POWER ON and "d" indication. 2. If a tape is inserted,the mode turns to middle EJECT postion and the cylinder rotates. 3. Dew condensation continues for about 120 minutes. 4. After cancelleating condensation,if a tape is inserted,the mode turns to STOP.
E-2	FRONT LOADING LOCKED	1. If the motor is locked for about 2-5 seconds during front loading, the motor is unloaded. 2. If the motor is locked for about 2-5 seconds during front unloading, the motor is unloaded after loading. Then if it is locked for about 2-5 seconds, the mode turns to AUTO OFF and "E-2" indication.
E-3	LOADING LOCKED	1. If the mode is locked for about 5 seconds during loading, it is unloaded. Then if it is loaded and locked again, the mode turns to AUTO OFF and "E-3" indication. 2. If the motor is locked for about 2-5 seconds during unloading, the mode turns to AUTO OFF and "E-3" indication.
E-4	CYLINDER LOCKED	1. If the motor is locked for about 5 seconds in cylinder rotating mode, the mode turns to AUTO OFF and "E-4" indication.
E-5	REEL LOCKED	1. If the reel rotation is locked during tape running, the motor in unloaded once. Then if the rotation is locked through the trying to load, the mode turns to AUTO OFF and "E-5" indication.

DISASSEMBLY PROCEDURE

2-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing. When reassembling, perform the steps in the reverse order.

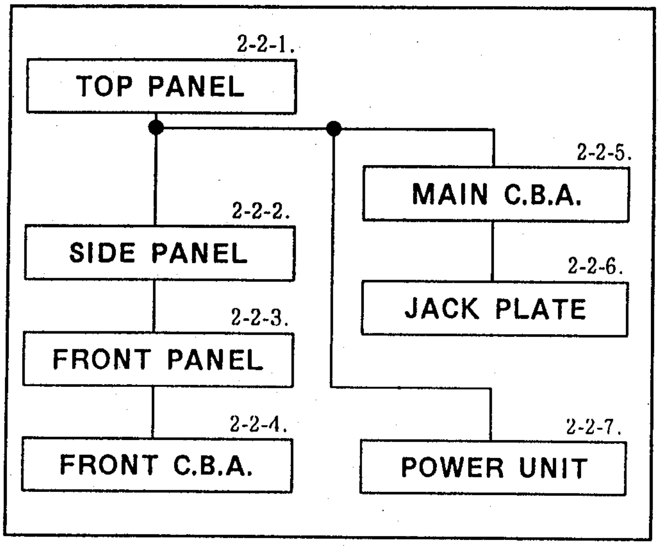

2-2-1.
TOP PANEL
2-2-5.
MAIN C.B.A.
2-2-2.
SIDE PANEL
2-2-6.
JACK PLATE
2-2-3.
FRONT PANEL
2-2-4.
FRONT C.B.A.
2-2-7.
POWER UNIT

Fig. D1

2-2. DISASSEMBLY METHOD

2-2-1. Removal of the Top Panel

1. Unscrew the 2 screws (A) on the top of the unit and lift up rear portion of the Top Panel then slide it off the back of the unit.

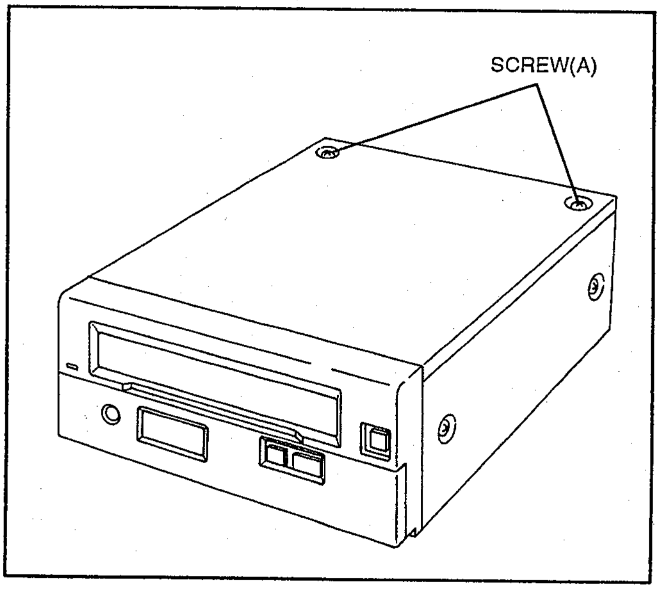


Fig. D2

2-2-2. Removal of the Side Panel

1. Unscrew 2 screws (B) on the side of the unit for each the Side Panel and remove the Side Panel.

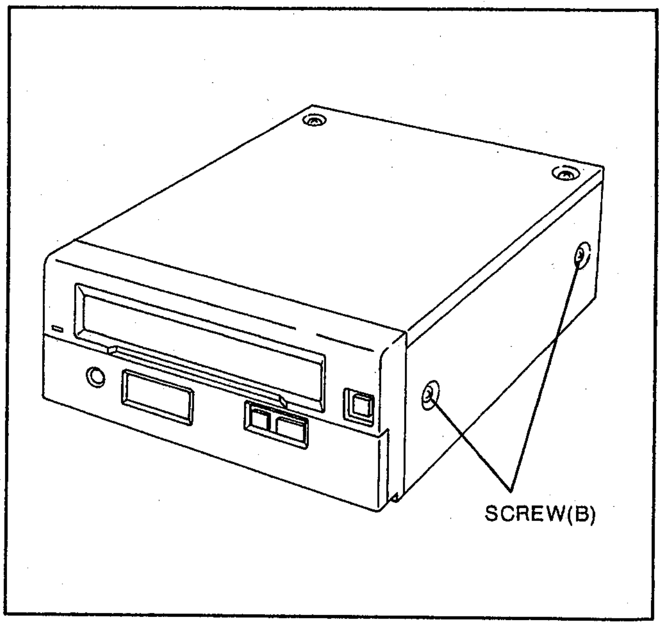


Fig. D3

2-2-3. Removal of Front Panel

1. Unlock the 4 locking tabs on the top and bottom of the Front Panel then pull the panel off the unit.

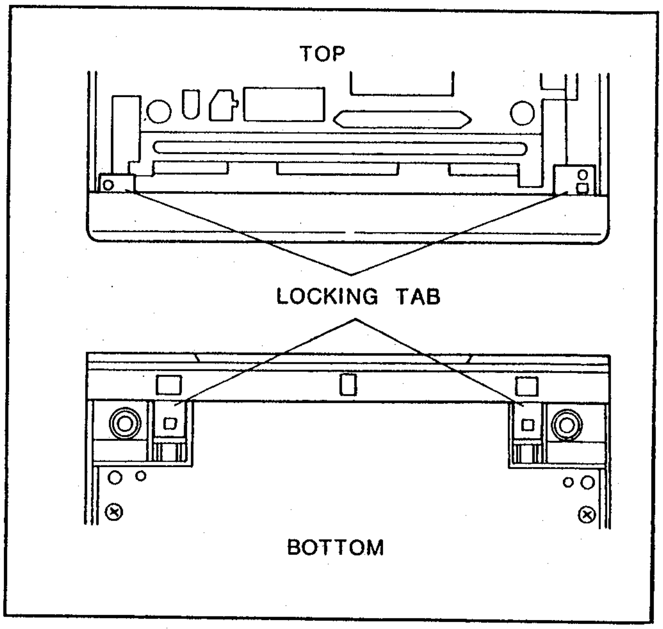

TOP
LOCKING TAB
BOTTOM

Fig. D4

2-2-4. Removal of the Front C.B.A.

1. Unscrew 2 screws (C), disconnect 2 flexible cables from the P6501 and P6502.
2. Unlock 6 locking tabs on the Front C.B.A.
3. Carefully pull the Front C.B.A. off the unit.

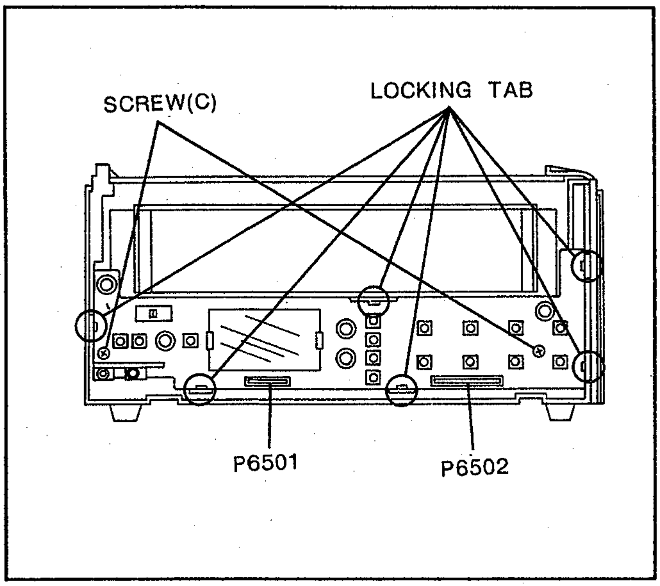

SCREW(C)
LOCKING TAB
P6501
P6502

Fig. D5

2-2-5. Opening of the Main C.B.A.

1. Unscrew 3 screws (D) on the Main C.B.A.
2. Unlock 2 locking tabs and carefully open the Main C.B.A.

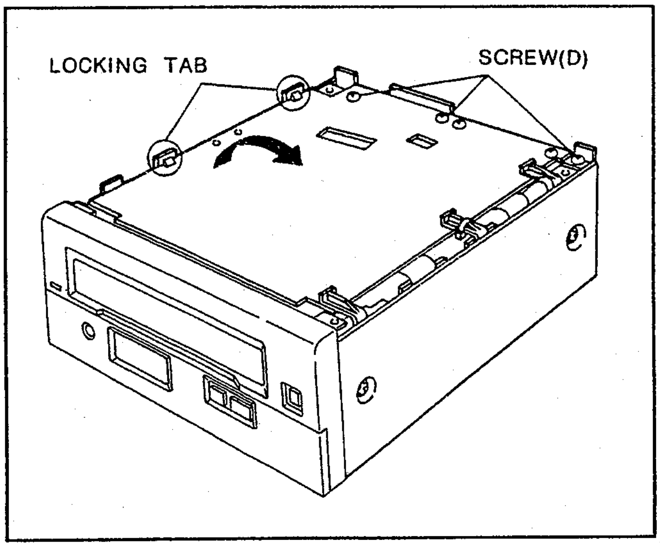

LOCKING TAB
SCREW(D)

Fig. D6

2-2-6. Removal of the Jack Plate

1. Unscrew 2 screws (E) on the foil side of the Main C.B.A.
2. Carefully pull out the Rear Jack C.B.A. with the Rear Plate that connected the P6007 and P6008 on the Main C.B.A.

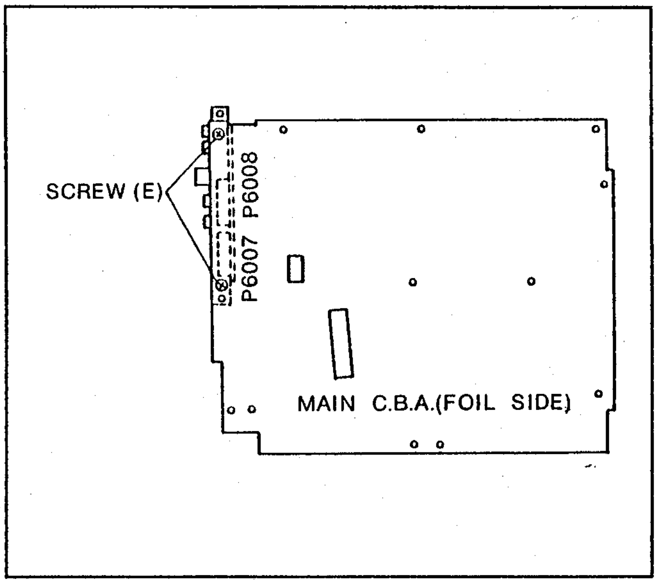

SCREW (E)
P6007
P6008
MAIN C.B.A.(FOIL SIDE)

Fig. D7

2-2-7. Removal of the Power Supply Unit

1. Disconnect P1 connector in side of the Power Supply Unit.
2. Push down the locking tab and carefully slide the Power Supply Unit then lift it up from the unit.

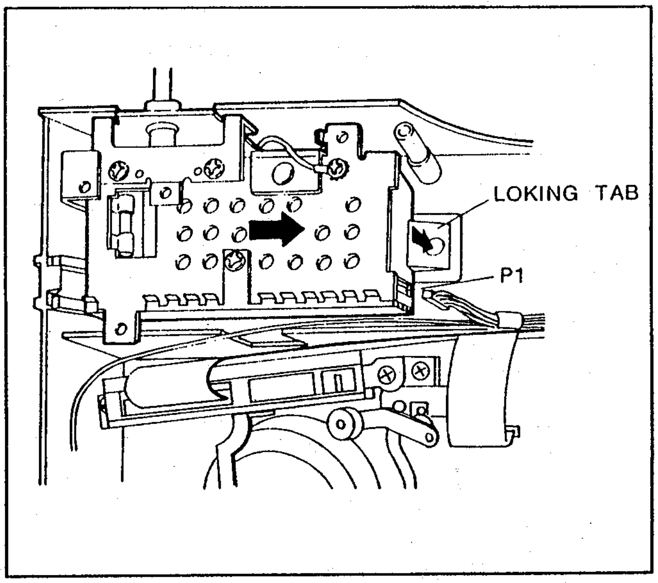
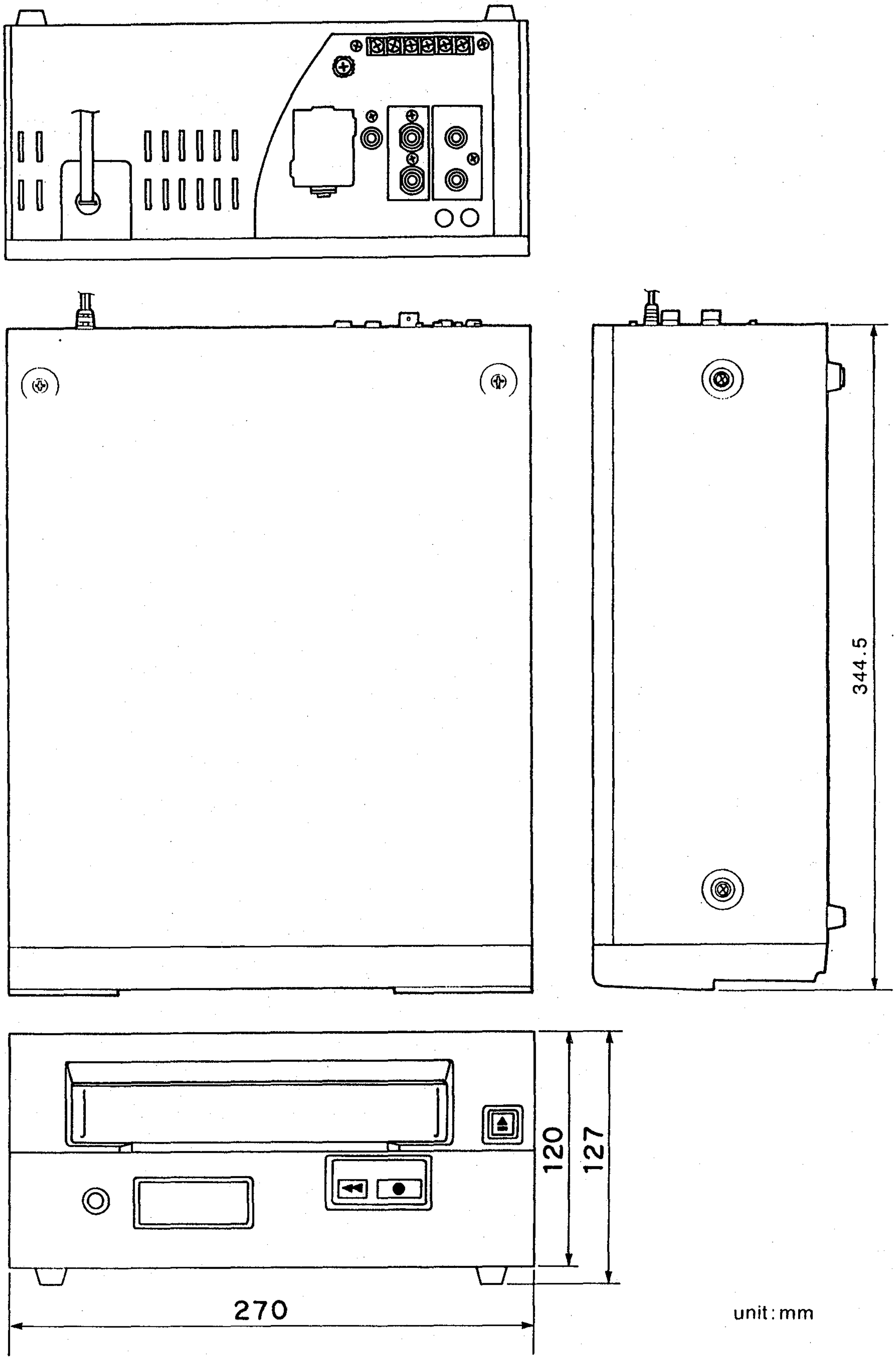

LOKING TAB
P1

Fig. D8

DIMENSIONS


344.5
120
127
270

unit:mm

REGULAR MAINTENANCE

The purpose of periodic maintenance is to preserve the functioning of this machine throughout its useful life. The user or service dealer should perform these maintenance regularly to ensure that maximum utility is obtained from the machine.

The VCR is a complicated place of equipment. It contains many belts, rollers, heads etc., which become worn, and deterlorate as time goes by, causing trouble. Dust and dirt will also impede the proper functioning of the machine. In light of this, it is very important that overall maintenance be done according to the maintenance chart to maintain the functions of the VCR, and to avoid accidental problems. This maintenance should also be performed after any repairs are done on the equipment.

The VCR used for business applications requires particular attention for several reasons. The installation conditions and applications are not always the best. Long use times, or poor environmental conditions may adversely affect the lifespan and performance of the machine. Regular maintenance assures that the purchaser obtains the maximum value for his expenditure. Accordingly, the necessity of regular maintenance should be fully explained at the time of sale, as well as during after-sale repairs.

MAINTENANCE CHART

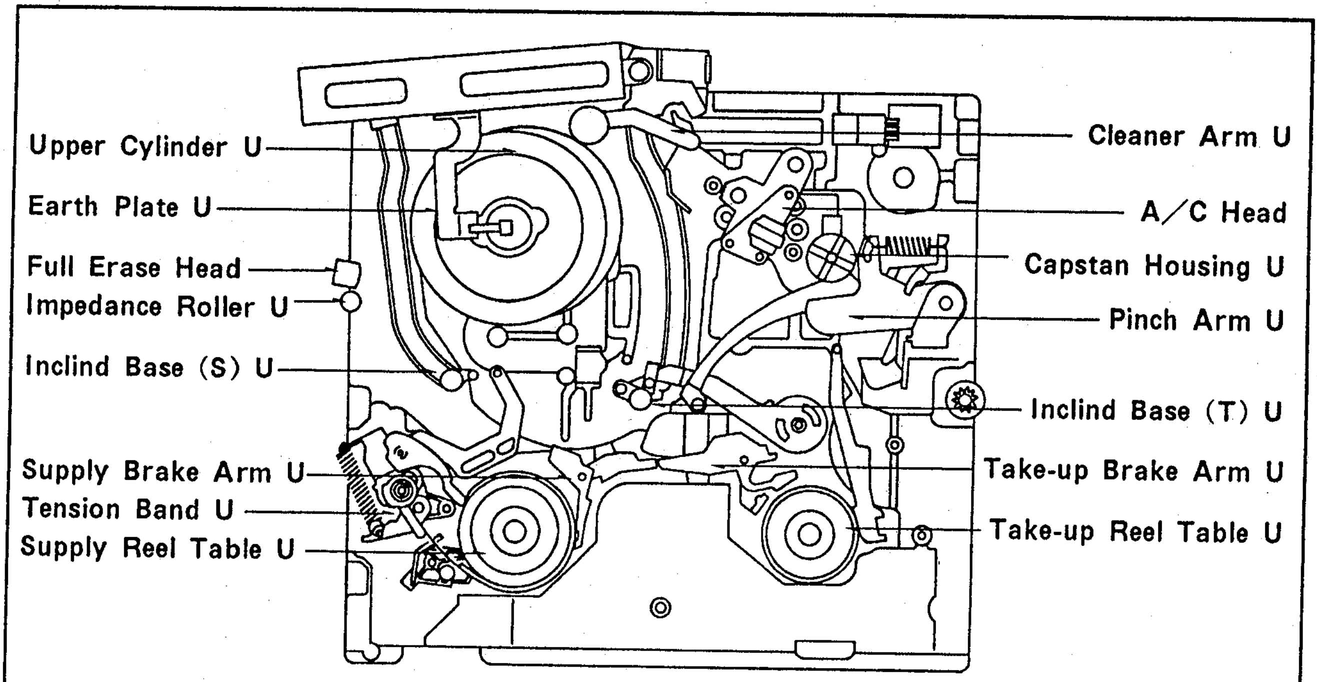
The following periodic maintenance is required to prolong the life of the machine.

Ref. No. IN P/L	Parts Name	Hour								Ref. No. IN P/L	Parts Name	Hour							
		500	1000	2000	3000	4000	5000	6000	10000			500	1000	2000	3000	4000	5000	6000	10000
—	Tape Transporter	●	●	●	●	●	●	●	●	52 (1)	Tamsopm Band U						◎		◎
20 (1)	A/C Head	●	●	●	●	●	◎	●	◎	113 (2)	Timing Belt						◎		◎
71 (1)	Upper Cylinder	●	◎	◎	◎	◎	◎	◎	◎	62 (1)	Earth Plate U						◎		◎
70 (1)	Cylinder U	●	●	●	●	●	◎	●	◎	12 (1)	FE Head	●	●	●	●	●	●	●	◎
60 (1)	Supply Reel Table U	●	●	●	●△	●	●△	●	●△	127 (2)	Mode Switch						◎		◎
61 (1)	Takeup Reel Tuble U	●	●	●	●△	●	●△	●	●△	108 (2)	Main Cam Gear						×		×
106 (2)	Capstan Roter U	●	●	●	●	●	◎△	●	◎△	40 (1)	Inclined (S) U						▲		▲
105 (2)	Capstan Housing U						◎		◎	42 (1)	Inclined (T) U						▲		▲
49 (1)	Presure Rooer U			◎		◎		◎	◎	121 (2)	Loading Motor U						◎		◎
63 (1)	Supply Brake Arm U						◎		◎	9 (1)	Cleaner Arm U						◎		◎
15 (1)	Impedance Roller U	●	●	●	●	●	●	●	◎										
64 (1)	Takeup Brake Arm U						◎		◎	BAT6301	Backup Battery	Approx. 5 years							

*** NOTE:**

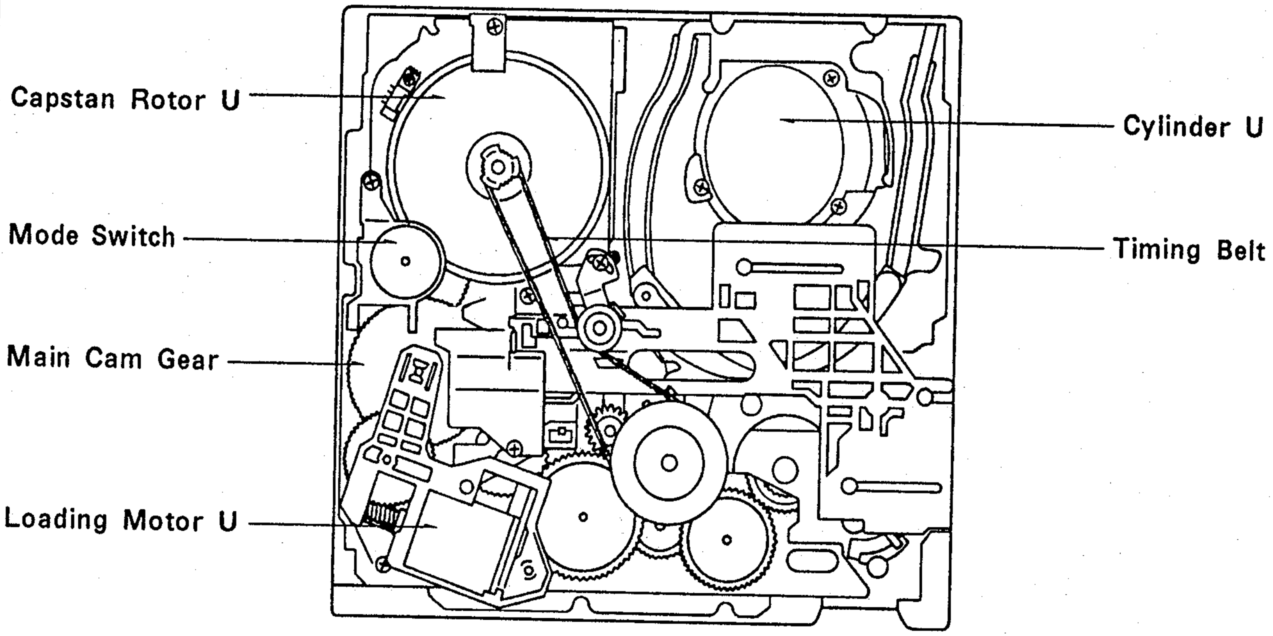
Symbol	Maintenance	Requirement	Remark
●	Cleaning	Ethyl-alcohol or Cleaning Liquid (Purchase locally)	Wipe dirt from the parts using soft cloth impregnated with Ethyl-Alcohol. Note: When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol quickly and thoroughly.
◎	Replacement	————	————
△	Lubrication	High Quality Spindle Oil (Purchase locally)	Supply one or two drops of oil.
▲	Greasing	Molytone Grease (MOR265)	Wipe the old grease and apply new grease.
×	Greasing	S.C.R. Grease (VFK0680)	Wipe the old grease and apply new grease.

3-2. PARTS LOCATION


Upper Cylinder U
Earth Plate U
Full Erase Head
Impedance Roller U
Inclind Base (S) U
Supply Brake Arm U
Tension Band U
Supply Reel Table U
Cleaner Arm U
A/C Head
Capstan Housing U
Pinch Arm U
Inclind Base (T) U
Take-up Brake Arm U
Take-up Reel Table U

TOP VIEW

BOTTOM VIEW


Capstan Rotor U
Mode Switch
Main Cam Gear
Loading Motor U
Cylinder U
Timing Belt

ELECTRICAL ADJUSTMENT PROCEDURES

4-1. TEST EQUIPMENT

To perform the electrical adjustment completely the following equipments are required.

1. VTVM (Vacuum Tube Volt Meter)
   Capacity: 0.001 to 50V
2. DVM (Digital Volt Meter)
   Capacity: 0.001 to 50V
3. Dual-Trace Oscilloscope (with probes)
   Capacity: 0.005 to 50V/div, DC to 30MHz
4. Frequency Counter
   Capacity: 0 to 10MHz
5. Sine Wave Signal Generator(RC Oscillator)
   Capacity: 0 to 10MHz
6. Video Signal Generator (Composite)
7. Spectrum analyzer
8. Color Monitor TV
9. Alignment Tape (VFM8080HQFP)

4-2. ELECTRICAL ADJUSTMENT PROCEDURES

HOW TO READ THE ADJUSTMENT PROCEDURE TABLE

BOARD	MAIN C.B.A.
TP	TP3502(F-2)
ADJ.	VR2002(A-3)
TAPE	ALIGNMENT TAPE
INPUT	COLOR BAR
MODE	PLAY
M.EQ	OSCILLOSCOPE
SPEC.	T=6.5±0.5H

BOARD:	Adjustment position of Print Circuit Board.
TP:	Connection point(Test Point) of measuring equipment * ( ) shown TP location on the.board.
ADJ.:	Adjustment component * ( ) shown VR location the board.
TAPE:	Tape for adjustment.
INPUT:	Supply a signal for adjustment.
MODE:	Mode of VTR. Example:REC → PLAY is recording signal and playback the portion just recorded.
M.EQ:	Measuring equipment.
SPEC.:	Specification for adjustment.

4-2-1. PG SHIFTER ADJ.

BOARD	MAIN C.B.A.
TP	TP3502(F-3),TP6106(H-4)
ADJ.	VR2002(A-3)
TAPE	ALIGNMENT TAPE
INPUT	
MODE	PLAY
M.EQ	OSCILLOSCOPE
SPEC.	T=6.5±0.5H

Note: *Tape interchangeability adjustment should be completed before this adjustment.*

1. Playback the 2nd portion of the alignment tape.
2. Connect the oscilloscope to TP3502 for CH1 and TP6106 for CH2.
3. Adjust VR2002 so that T=6.5 ± 0.5H as shown in Fig. E1.

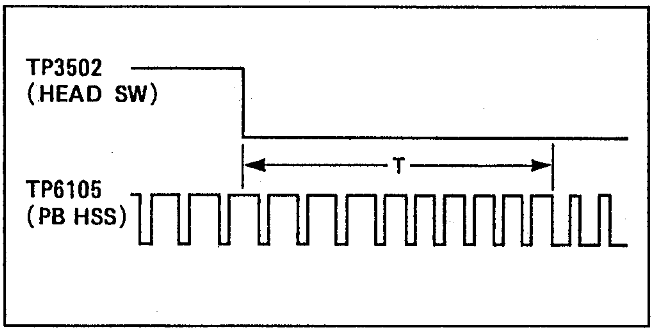


Fig.E1

4-2-2. SLOW FREE RUN ADJ.

BOARD	MAIN C.B.A.
TP	TP6004(A-4)
ADJ.	VR2001(A-3)
TAPE	
INPUT	
MODE	PLAY/PAUSE(STILL)
M.EQ	FREQUENCY COUNTER
SPEC.	F=470±10Hz

1. Connect the jumper wire between TP6002(B-8) and TP6003(B-8) on the MAIN C.B.A.
2. Playback the 2nd portion of the alignment tape.
3. Connect the low frequency counter to TP6004.
4. Adjust VR2001 so that F=470 ± 10Hz.
5. Remove a jumper wire when completed this adjustment.

4-2-3. SLOW TRACKING ADJ.

BOARD	MAIN C.B.A.
TP	VIDEO OUT
ADJ.	3H(FWD):VR2006(A-3) 3H(REV):VR2005(A-4) 6H(FWD):VR2004(B-4) 6H(REV):VR2003(B-3)
TAPE	BLANK TAPE
INPUT	COLOUR BAR
MODE	REC → PLAY
M.EQ	MONITOR TV
SPEC.	NO NOISE BAR APPEAR ON THE MONITOR TV

Note: *SLOW FREE RUN adjustment should be completed before this adjustment.*

1. Record the colour bar signal a few minute in the 3H and 6H tape speed mode.
2. Set the tracking to fix position that press the tracking buttons (+)/(-) simultaneously.
3. Place the unit in SLOW mode at 3H recorded portion.
4. Adjust VR2005(REV) and VR2006(FWD) until noise bar disappear on the monitor screen.
5. Place the unit in SLOW mode at 6H recorded portion.
6. Adjust VR2003(REV) and VR2004(FWD) until noise bar disappear on the monitor screen.

4-2-4. V LOCK ADJ.

BOARD	MAIN C.B.A.
TP	VIDEO OUT
ADJ.	3H:VR2008(B-4),6H:VR2007(B-5)
TAPE	BLANK TAPE
INPUT	COLOUR BAR
MODE	REC → PLAY/PAUSE
M.EQ	MONITOR TV
SPEC.	NO V-DANCING ON MONITOR TV

Note: *SLOW TRACKING adjustment should be completed before this adjustment.*

1. Set the V LOCK volume VR6901(3H) and VR6902(6H) to center position on the rear jack panel.
2. Record the colour bar signal a few minute in the 3H and 6H tape speed mode.
3. Place the unit in STILL mode at 3H recorded portion.
4. Adjust VR2008 so that the V-dancing does not appear on monitor screen.
5. Place the unit in STILL mode at 6H recorded portion.
6. Adjust VR2007 so that the V-dancing does not appear on monitor screen.

4-2-5. OSD AGC LEVEL ADJ.

BOARD	MAIN C.B.A.
TP	TP3005(H-2)
ADJ.	VR3201(E-5)
TAPE	
INPUT	COLOUR BAR
MODE	EJECT
M.EQ	OSCILLOSCOPE
SPEC.	2.0±0.1Vp-p

1. Supply the colour bar signal to video input.
2. Connect the oscilloscope to TP3005.
4. Adjust VR3201 so that video level becomes 2.0 ± 0.1 Vp-p.

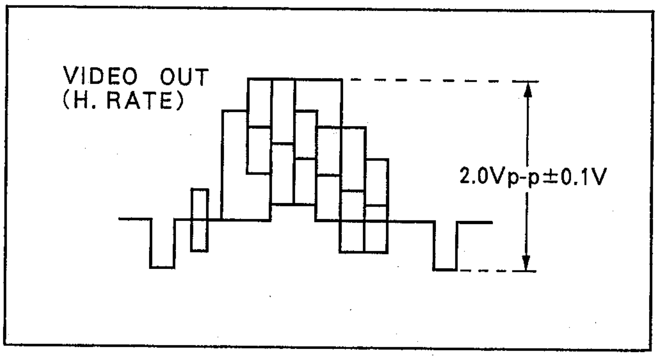


Fig. E2

4-2-6. CHARACTER POSITION ADJ.

BOARD	VIDEO SUB C.B.A.
TP	VIDEO OUT
ADJ.	CT3201(E-5)
TAPE	BLANK TAPE
INPUT	COLOUR BAR
MODE	STOP
M.EQ	MONITOR TV
SPEC.	SEE FIGURE

1. Supply a colour bar signal to video input.
2. Set the MENU/REC LOCK SW to MENU side and select the MENU SCREEN 3.
3. The character display position set to R-UPPER.
4. Adjust CT3201 so that the "H" of time mode display is positioned as shown in figure E3.

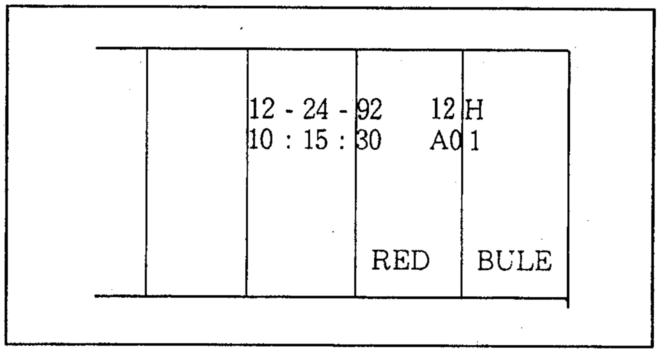


Fig. E3

4-2-7. VIDEO RECORDING CURRENT ADJ.

BOARD	MAIN C.B.A.
TP	TP507(HOT),TP508(GND) (HEAD AMP)
ADJ.	Y:VR3505(D-3),C:VR3504(E-3)
TAPE	BLANK TAPE
INPUT	COLOUR BAR
MODE	REC
M.EQ	OSCILLOSCOPE
SPEC.	Y=130±5mVp-p, C=32±2mVp-p

Note: *The oscilloscope probe should be use under 5 feet longer cable and set 10:1.*

1. Place the unit in recording(3H) mode with colour bar signal.
2. Connect the oscilloscope between TP507(HOT) and TP508(GND) on the HEAD AMP C.B.A.
3. Turn the VR3505 fully clockwise from foil side.
4. Adjust VR3504 so that the cyan level becomes 32 ± 2 mVp-p and adjust VR3505 so that the sync level becomes 130 ± 5 mVp-p.

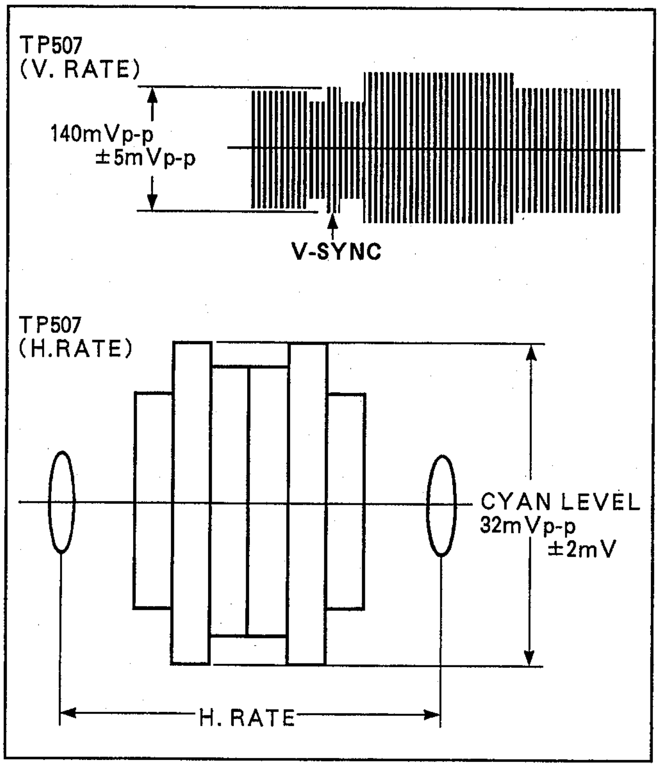


Fig. E4

4-2-8. VIDEO PLAYBACK LEVEL ADJ.

BOARD	MAIN C.B.A.
TP	VIDEO OUT
ADJ.	VR3502(F-3)
TAPE	BLANK TAPE
INPUT	COLOUR BAR
MODE	REC → PLAY
M.EQ	OSCILLOSCOPE
SPEC.	Y=1.0±0.05Vp-p,C=0.6±0.03Vp-p

1. Connect the video out to the oscilloscope with a 75ohm termination.
2. Record the colour bar signal a few minute and playback just recorded portion
3. Adjust VR3502 so that the cyan level becomes 0.6 ± 0.03Vp-p.
4. Confirm that the video level is 1.0 ± 0.05Vp-p.

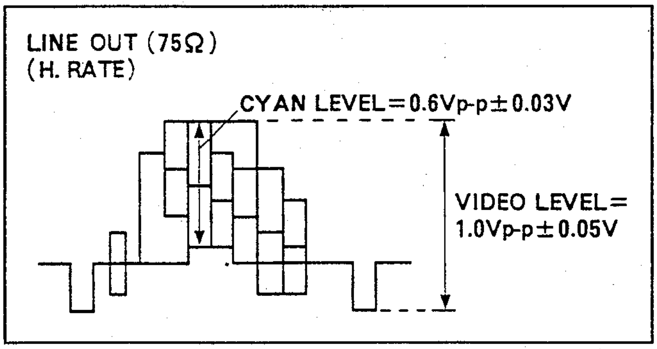

LINE OUT (75Ω)
(H. RATE)
CYAN LEVEL=0.6Vp-p±0.03V
VIDEO LEVEL=
1.0Vp-p±0.05V

Fig. E5

4-2-9. Y BALANCE ADJ.

BOARD	MAIN C.B.A.
TP	TP3003(G-5)
ADJ.	VR3501(C-7)
TAPE	BLANK TAPE
INPUT	COLOUR BAR
MODE	REC → PLAY
M.EQ	OSCILLOSCOPE
SPEC.	LESS THAN 80mVp-p

1. Supply a colour bar signal to video input.
2. Record the colour bar signal a few minute and playback just recorded portion.
3. Connect the oscilloscope to TP3003 with a capacitor(1000pF) as shown in Fig.E6.
4. Adjust VR3501 so that the portion of shown in Fig.E6 becomes less than 80mVp-p.

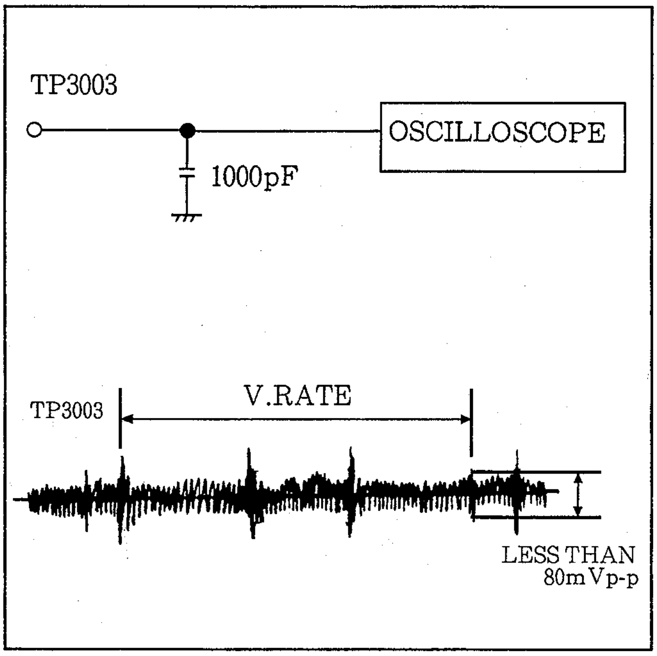

TP3003
OSCILLOSCOPE
1000pF
TP3003
V.RATE
LESS THAN
80mVp-p

Fig. E6

4-2-10. FREQUENCY RESPONSE ADJ.

BOARD	MAIN C.B.A.
TP	VIDEO OUT
ADJ.	3H:VR3503(F-3),6H:VR3506(F-4)
TAPE	BLANK TAPE
INPUT	30% VIDEO SWEEP (W/O:Burst)
MODE	REC → PLAY
M.EQ	OSCILLOSCOPE
SPEC.	100K : 2MHz=5 : 6.0±0.5

1. Connect video out to the oscilloscope.
2. Set the SHARPNESS mode to "ON" and VIDEO mode to "B/W" on the on-screen menu.
3. Record the 30% video sweep signal without burst a few minute in the 3H and 6H tape speed mode.
3. Playback just recorded portion.(Vary the vertical scope setting until the 100KHz level reaches 5 divisions)
4. Adjust VR3503 so that the 3H level becomes as shown in Fig.E7 at 3H recorded portion.
5. Adjust VR3506 so that the 6H level becomes as shown in Fig.E7 at 6H recorded portion.

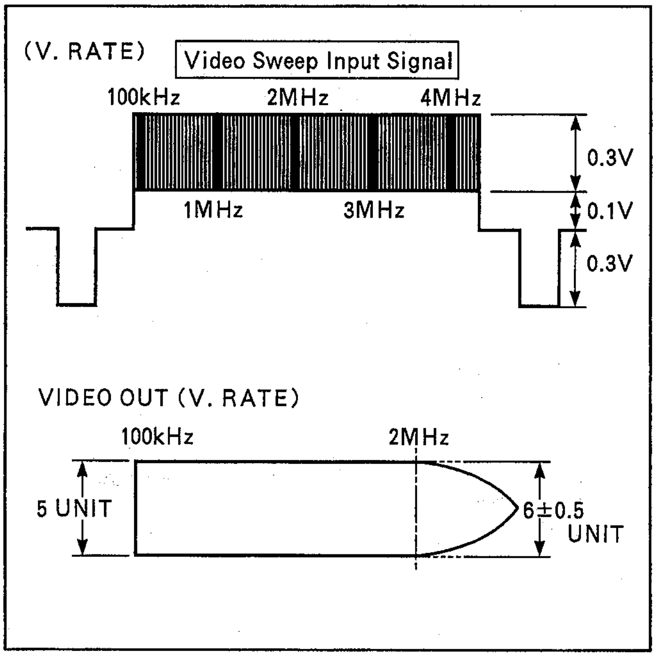

(V. RATE)
Video Sweep Input Signal
100kHz
2MHz
4MHz
1MHz
3MHz
0.3V
0.1V
0.3V
VIDEO OUT (V. RATE)
100kHz
2MHz
5 UNIT
6±0.5 UNIT

Fig.E7

4-2-11. AUDIO BIAS CURRENT ADJ.

BOARD	MAIN C.B.A.
TP	HOT:TP4001(I-1),COLD:TP4002(I-2)
ADJ.	VR4001(I-1)
TAPE	BLANK TAPE
INPUT	
MODE	REC
M.EQ	VTVM
SPEC.	3.0 ± 0.1mVrms

1. Place the unit in recording mode without audio signal.
2. Connect the VTVM to TP4001(HOT) and TP4002(GND).
3. Adjust VR4001 so that level becomes 3.0 ± 0.1 mVrms.

4-2-12. AUDIO PLAYBACK GAIN ADJ.

BOARD	MAIN C.B.A.
TP	AUDIO OUT
ADJ.	VR4006(I-2)
TAPE	BLANK TAPE
INPUT	1kHz, -10dBV SINEWAVE SIGNAL
MODE	REC → PLAY
M.EQ	VTVM
SPEC.	-8dBV ± 1dB

1. Supply a 1kHz, -10dB sinewave signal to audio input.
2. Place the unit in recording mode with sine wave signal.
3. Connect the VTVM to audio output.
4. Playback the just recorded portion.
5. Adjust VR4006 so that playback level becomes -8dBV ± 1 dB.

4-3. MECHANICAL ADJUSTMENT INFORMATION

This section contain the supplementary information of Mechanical Adjustment Procedure for K-Mechanisum.
Please refer to the K-Mechanisum service manual (Order No. VSD9402M632) .

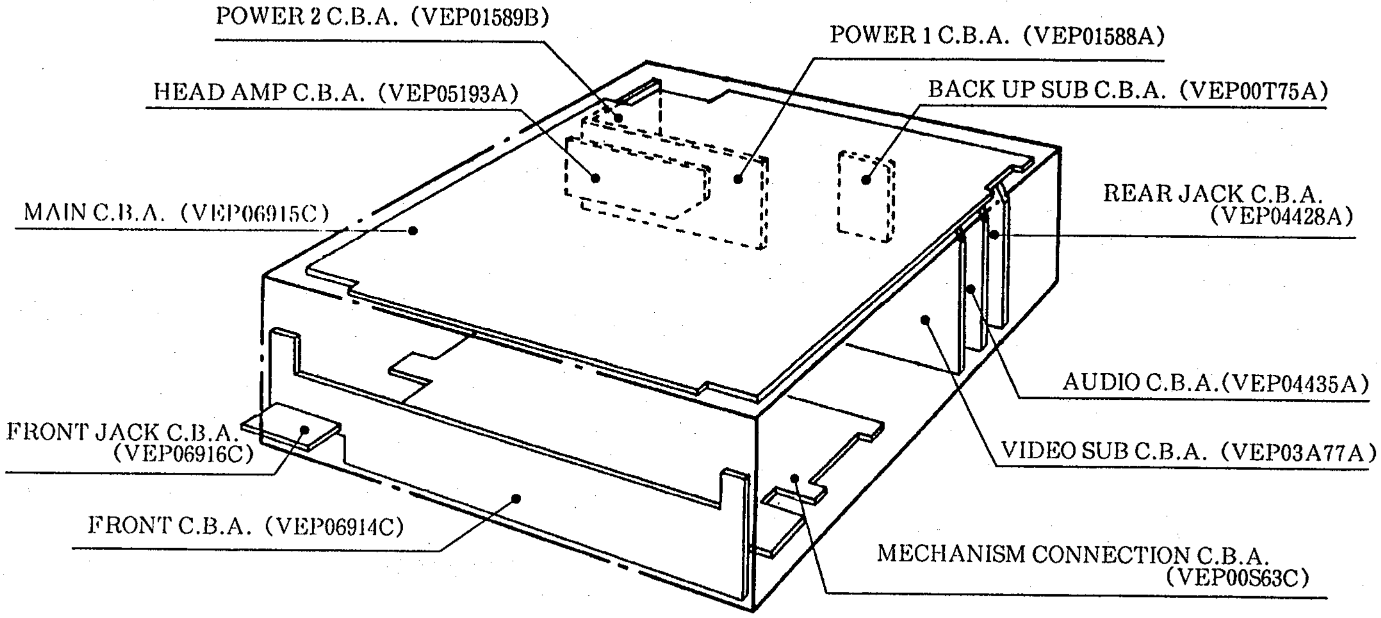
1. TEST POINT

INTERCHANGEABILITY ADJUSTMENT	VIDEO RF SIGNAL	TP507,TP508 (GND) HEAD AMP C.B.A.
	HEAD SWITCHING PULSE	TP3502 MAIN C.B.A.
TRACKING FIX POISION (Inhibit of Auto Tracking)	JUMPER SHORT	TP6002 and TP6003 MAIN C.B.A.

2. SPECIFICATION

3-8. BACK TENSION	22.5 ~ 27.5 g
3-11. FG GAP	0.15 ± 0.04mm
3-12. PINCH PRESSING FORCE	1140 ± 250 g

CIRCUIT BOARD LAYOUT


POWER 2 C.B.A. (VEP01589B)
POWER 1 C.B.A. (VEP01588A)
HEAD AMP C.B.A. (VEP05193A)
BACK UP SUB C.B.A. (VEP00T75A)
MAIN C.B.A. (VEP06915C)
REAR JACK C.B.A. (VEP04428A)
AUDIO C.B.A.(VEP04435A)
FRONT JACK C.B.A. (VEP06916C)
VIDEO SUB C.B.A. (VEP03A77A)
FRONT C.B.A. (VEP06914C)
MECHANISM CONNECTION C.B.A. (VEP00S63C)

- MEMO -

BLOCK DIAGRAMS
SCHEMATIC DIAGRAMS
AND
CIRCUIT BOARDS

NOTE : How to read the Schmatic diagram.

MIJISSO ⇒ No circuits construct for AG-6124.

D183(D183E) ⇒ AG-6124 used this circuits.

D183,D184,D187 ONLY ⇒ AG-6124 used this circuits.

D184 ONLY ⇒ No circuits construct for AG-6124.

D182 ONLY ⇒ No circuits construct for AG-6124.

D187 ONLY ⇒ No circuits construct for AG-6124.

✻ mark ⇒ Parts value, see table in the schematic diagram.

(EX:)

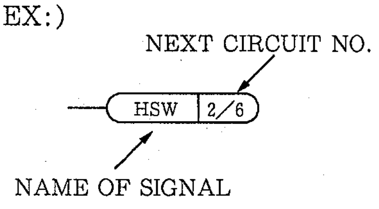
	D184
R2018	10K
R2019	-----------

D183, D183E or PAL AG-6124 used this circuits.

10KΩ

No part

(EX:)



TITLE OF CIRCUIT	CIRCUIT NO.
SYSCON/SERVO	1/6
MOTOR DRIVE	2/6
INTERFACE	3/6
VIDEO 1 (Y)	4/6
VIDEO 2 (C)	5/6
AUDIO (MAIN)	6/6

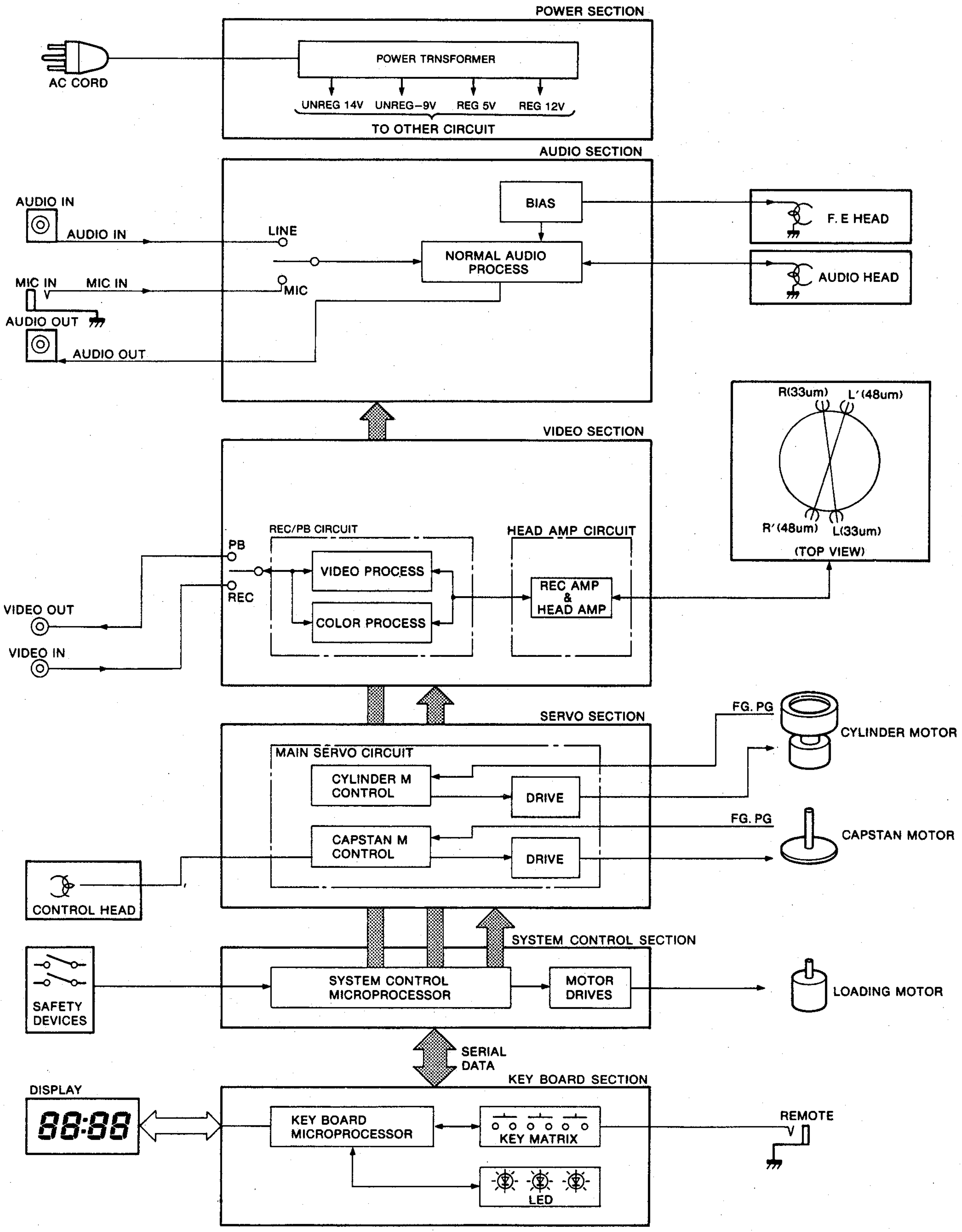
NOTE : Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

5-1. ABBREVIATIONS

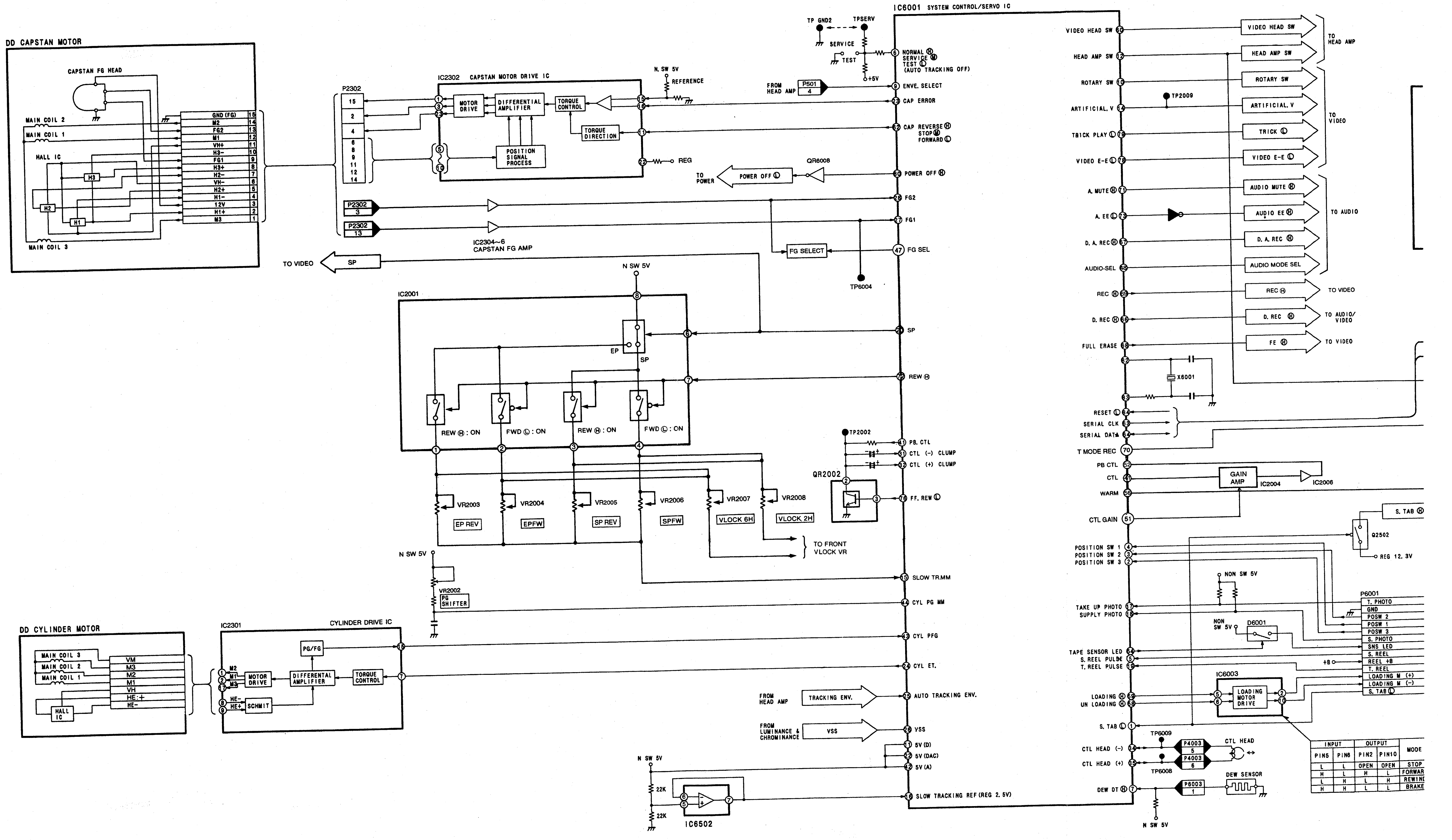
A MODE SEL	AUDIO MODE SELECT
A.DUB.P(L)	AUDIO DUBBING PAUSE (L)
A.E.HEAD	AUDIO ERASE HEAD
A.HEAD(R)	AUDIO HEAD (REC)
A.HEAD(W)	AUDIO HEAD (PLAY)
A_HSW	AUDIO HEAD SWITCING PULSE
AE	AUDIO ERASE
AGC	AUTO GAIN CONTROL
AGC ON(H)	AUTO GAIN CONTROL ON (H)
AL(AUDIO)	AUDIO L-CH SIGNAL
ANALOG REM IN	ANALOG REMOTE SIGNAL IN
ANALOG_IN	ANALOG REMOTE SIGNAL IN
AR(AUDIO)	AUDIO R-CH SIGNAL
ART_V	ARTIFICAL VERTICAL SYNC SIGNAL
AUDIO EE(H)	AUDIO EE MODE (H)
AUTO OFF OUT	AUTO OFF SIGNAL OUT
BACK SYS 5V	BACK UP 5V FOR SYSTEM CONTROL CIRCUIT
BACK UP 5V	BACK UP 5V DC
BIAS	AUDIO BIAS SIGNAL
CAP ET	CAPSTAN ERROR TORQUE CONTROL
CAP FG1	CAPSTAN FG1 PULSE
CAP FG2	CAPSTAN FG2 PULSE
CAP RSF	CAPSTAN REV/STOP/FWD
CAP VM	CAPSTAN DRIVE VOLTAGE
COR	CORREATION SIGNAL
CTL OUT	CONTROL SIGNAL OUT
CTL(+)	CONTROL HEAD (+)
CTL(−)	CONTROL HEAD (−)
CUL	CAPSTAN SPEED CONTROL SIGNAL (H,M,High Impedance)
CYL ET	CYLINDER ERROR TORQUE CONTROL
CYL PFG	CYLINDER PG/FG PULSE
D FM REC (L)	DELAIED FM REOCRDING (L)
D REC (H)	DELAIED RECORDING (H)
DEW SENSE	DEW SENSOR
E_REC_5V	EXCEPT RECORDING 5V
EDIT_ON(H)	EDIT ON (H)
EE(H)	RECORDING (H)
ENV_SEL	RF ENVELOPE SELECT
ENVE.OUT	RF ENVELOPE SIGNAL OUT
FE(1)	FULL ERASE(1)
FE(2)	FULL ERASE(2)
FLY E	FLYING ERASE
FM MUTE(H)	FM AUDIO MUTE (H)
H_A_SW	HEAD AMP SWITCING PULSE
H_METER_RST	HOUR METER RESET
HIFI REC(L)	FM AUDIO RECORDING(L)
HSS	HORIZONTAL SYNC SIGNAL
HSW	HEAD SWITCING PULSE
L(EP)	VIDEO L−CH FOR EP MODE
L(SP)	VIDEO L−CH FOR SP MODE
LOADING M(+)	LOADING MOTOR (+)
LOADING M(−)	LOADING MOTOR (−)
M GND	MOTOR GND
METER_CH1	AUDIO METER CH1
METER_CH2	AUDIO METER CH2
MIC GND	MICROPHONE GND
MIC IN	MICROPHONE SIGNAL INPUT
MIC(H)	MICROPHONE SIGANL REC (H)
MIX OUT	AUDIO CH1/CH2 SIGNAL MIX OUTPUT
NOR REC(L)	NORMAL AUDIO RECORDING(L)
PB LEVEL	PLAYBACK SIGNAL LEVEL
PB SIGNAL	PLAYBACK VIDEO SIGNAL
PFG	PG/FG
POS SW1~3	MECHANISUM POSITION SWITCH
POWER OFF(L)	AC POWER OFF (L)
R(EP)	VIDEO R−CH FOR EP MODE
R(SP)	VIDEO R−CH FOR SP MODE
REC GATE(L)	RECORDING GATE (L)
REC_C	RECORDING CHROMINANCE SIGNAL
REC_Y	RECORDING LUMINANCE SIGNAL
REC(H)	RECORDING (H)
REEL +B	REEL PHOTE SENSOR DC
RF_C	RF CHROMINANCE SIGNAL
RF_OUT	RF SIGNAL OUT
RF_Y	RE LUMINANCE SIGNAL
RF_Y_IN	RF LUMINANCE SIGNAL INPUT
RE_Y_OUT	RF LUMINANCE SIGNAL OUTPUT
ROTARY SW	ROTARY SWITCH
S NONSW 5V	NON SWITCING 5V FOR SYSTEM CONTROL CIRCUIT
S PHOTO	SUPPLY REEL PHOTO SENSOR
S REEL	SYPPLY REEL PULSE
S TAB SW	SAFETY TAB SWITCH
S VHS(H)	SVHS SIGNAL DETECT (H)
SCK F	SERIAL CLOCK FOR FRONT

SDA F	SERIAL CLOCK FOR FRONT
SERIAL IN	SERIAL REMOTE SIGNAL IN
SERIAL OUT	SERIAL REMOTE SIGNAL OUT
SFR	MOTOR DIRCTION STOP／FWD／REV
SNS LED	SENSOR LED
SP／EP	SP／EP MODE SELECT
T PHOTO	TAKE UP PHOTO TRANSISTOR
T REEL	TAKE UP REEL PULSE
TRAC ENV	TRACKING ENVELOPE
TRICK (L)	STILL,SEARCH MODE (L)
UNREG −9V	UNREGULATOR −9V
UNREG 14V	UNREGULATOR 14V
V LOCK 2H	VERTICAL LOCK 2H SPEED
V LOCK 6H	VERTICAL LOCK 6H SPEED
V NONSW 5V	NON SWITCHING 5V FOR VIDEO
V SYNC	VERTICAL SYNC SIGNAL
VIDEO EE(L)	VIDEO RECORDING MODE (L)
VR CH1	AUDIO CH1 RECORDING VOLUME
VR CH2	AUDIO CH2 RECORDING VOLUME
YNR_ IN	LUMINANCE NOISE REDUCTION SIGNAL IN
YNR_ OUT	LUMINANCE NOISE REDUCTION SIGNAL OUT

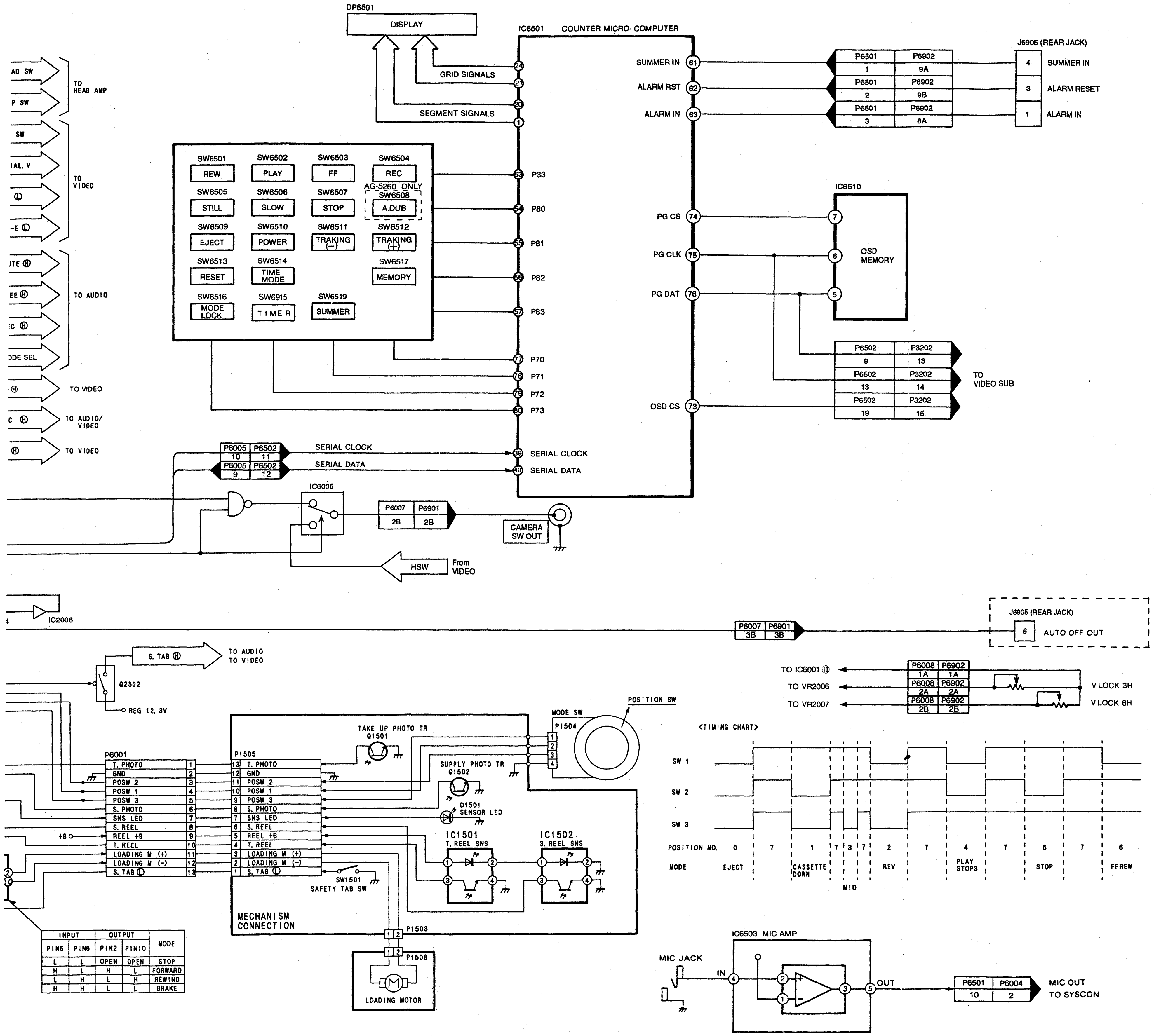
5-2. OVERALL BLOCK DIAGRAM


POWER SECTION
AC CORD
POWER TRNSFORMER
UNREG 14V
UNREG−9V
REG 5V
REG 12V
TO OTHER CIRCUIT
AUDIO SECTION
AUDIO IN
AUDIO IN
LINE
MIC IN
MIC IN
MIC
AUDIO OUT
AUDIO OUT
BIAS
NORMAL AUDIO PROCESS
F. E HEAD
AUDIO HEAD
R(33um)
L'(48um)
R'(48um)
L(33um)
(TOP VIEW)
VIDEO SECTION
REC/PB CIRCUIT
HEAD AMP CIRCUIT
PB
REC
VIDEO PROCESS
COLOR PROCESS
REC AMP & HEAD AMP
VIDEO OUT
VIDEO IN
SERVO SECTION
MAIN SERVO CIRCUIT
CYLINDER M CONTROL
DRIVE
CAPSTAN M CONTROL
DRIVE
FG. PG
CYLINDER MOTOR
FG. PG
CAPSTAN MOTOR
CONTROL HEAD
SYSTEM CONTROL SECTION
SAFETY DEVICES
SYSTEM CONTROL MICROPROCESSOR
MOTOR DRIVES
LOADING MOTOR
SERIAL DATA
KEY BOARD SECTION
DISPLAY
88:88
KEY BOARD MICROPROCESSOR
KEY MATRIX
LED
REMOTE

5-3. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

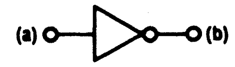

DD CAPSTAN MOTOR
CAPSTAN FG HEAD
MAIN COIL 2
MAIN COIL 1
HALL IC
MAIN COIL 3
H1
H2
H3
GND (FG) 15
M2 14
FG2 13
M1 12
VH+ 11
H3− 10
FG1 9
H3+ 8
H2− 7
VH− 6
H2+ 5
H1− 4
12V 3
H1+ 2
M3 1
P2302
15
2
4
6 8 9 11 12 14
P2302 3
P2302 13
IC2302 CAPSTAN MOTOR DRIVE IC
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
TORQUE DIRECTION
POSITION SIGNAL PROCESS
N. SW 5V
REFERENCE
REG
IC2304~6
CAPSTAN FG AMP
TO VIDEO
SP
TO POWER
POWER OFF Ⓛ
QR6008
FG SELECT
TP6004
TP GND2
TPSERV
SERVICE
TEST
+5V
FROM HEAD AMP
P501 4
IC6001 SYSTEM CONTROL/SERVO IC
NORMAL Ⓗ
SERVICE Ⓜ
TEST Ⓛ
(AUTO TRACKING OFF)
ENVE. SELECT
CAP ERROR
CAP REVERSE Ⓗ
STOP Ⓜ
FORWARD Ⓛ
POWER OFF Ⓗ
FG2
FG1
FG SEL
SP
REW Ⓗ
PB. CTL
CTL (−) CLUMP
CTL (+) CLUMP
FF. REW Ⓛ
SLOW TR.MM
CYL PG MM
CYL PFG
CYL ET.
AUTO TRACKING ENV.
VSS
5V (D)
5V (DAC)
5V (A)
SLOW TRACKING REF (REG 2. 5V)
N SW 5V
IC2001
EP
SP
REW Ⓗ : ON
FWD Ⓛ : ON
REW Ⓗ : ON
FWD Ⓛ : ON
VR2003
VR2004
VR2005
VR2006
VR2007
VR2008
EP REV
EPFW
SP REV
SPFW
VLOCK 6H
VLOCK 2H
TO FRONT VLOCK VR
TP2002
QR2002
VR2002
PG SHIFTER
DD CYLINDER MOTOR
MAIN COIL 3
MAIN COIL 2
MAIN COIL 1
HALL IC
VM
M3
M2
M1
VH
HE:+
HE−
IC2301
CYLINDER DRIVE IC
M2
M1
M3
HE−
HE+
MOTOR DRIVE
SCHMIT
DIFFERENTAL AMPLIFIER
PG/FG
TORQUE CONTROL
FROM HEAD AMP
TRACKING ENV.
FROM LUMINANCE & CHROMINANCE
VSS
22K
22K
IC6502
VIDEO HEAD SW
HEAD AMP SW
ROTARY SW
ARTIFICIAL. V
TBICK PLAY Ⓛ
VIDEO E-E Ⓛ
A. MUTE Ⓗ
A. EE Ⓛ
D. A. REC Ⓗ
AUDIO-SEL
REC Ⓗ
D. REC Ⓗ
FULL ERASE
TP2009
VIDEO HEAD SW
HEAD AMP SW
TO HEAD AMP
ROTARY SW
ARTIFICIAL. V
TRICK Ⓛ
VIDEO E-E Ⓛ
TO VIDEO
AUDIO MUTE Ⓗ
AUDIO EE Ⓗ
D. A. REC Ⓗ
AUDIO MODE SEL
TO AUDIO
REC Ⓗ
TO VIDEO
D. REC Ⓗ
TO AUDIO/ VIDEO
FE Ⓗ
TO VIDEO
X6001
RESET Ⓛ
SERIAL CLK
SERIAL DATA
T MODE REC
PB CTL
CTL
WARM
CTL GAIN
GAIN AMP
IC2004
IC2006
S. TAB Ⓗ
Q2502
REG 12. 3V
POSITION SW 1
POSITION SW 2
POSITION SW 3
NON SW 5V
TAKE UP PHOTO
SUPPLY PHOTO
NON SW 5V
D6001
TAPE SENSOR LED
S. REEL PULSE
T. REEL PULSE
+B
P6001
T. PHOTO
GND
POSW 2
POSW 1
POSW 3
S. PHOTO
SNS LED
S. REEL
REEL +B
T. REEL
LOADING M (+)
LOADING M (−)
S. TAB Ⓛ
IC6003
LOADING MOTOR DRIVE
LOADING Ⓗ
UN LOADING Ⓗ
S. TAB Ⓛ
TP6009
TP6008
CTL HEAD (−)
CTL HEAD (+)
P4003 5
P4003 6
CTL HEAD
DEW SENSOR
DEW DT Ⓗ
P6003 1
N SW 5V

INPUT		OUTPUT		MODE
PIN5	PIN8	PIN2	PIN10	
L	L	OPEN	OPEN	STOP
H	L	H	L	FORWAR
L	H	L	H	REWIN
H	H	L	L	BRAKE


DP6501
DISPLAY
IC6501 COUNTER MICRO-COMPUTER
GRID SIGNALS
SEGMENT SIGNALS
24
21
20
1
AD SW
P SW
TO HEAD AMP
SW
IAL. V
Ⓛ
-E Ⓛ
TO VIDEO
ITE Ⓗ
EE Ⓗ
C Ⓗ
DDE SEL
TO AUDIO
Ⓗ
TO VIDEO
C Ⓗ
TO AUDIO/ VIDEO
Ⓗ
TO VIDEO
SW6501 REW
SW6502 PLAY
SW6503 FF
SW6504 REC
SW6505 STILL
SW6506 SLOW
SW6507 STOP
AG-5260 ONLY
SW6508 A.DUB
SW6509 EJECT
SW6510 POWER
SW6511 TRAKING (−)
SW6512 TRAKING (+)
SW6513 RESET
SW6514 TIME MODE
SW6517 MEMORY
SW6516 MODE LOCK
SW6915 TIMER
SW6519 SUMMER
53 P33
54 P80
55 P81
56 P82
57 P83
77 P70
78 P71
79 P72
80 P73
SUMMER IN 61
ALARM RST 62
ALARM IN 63
P6501 P6902 1 9A
P6501 P6902 2 9B
P6501 P6902 3 8A
J6905 (REAR JACK)
4 SUMMER IN
3 ALARM RESET
1 ALARM IN
IC6510
PG CS 74
PG CLK 75
PG DAT 76
7
6
5
OSD MEMORY
P6502 P3202 9 13
P6502 P3202 13 14
P6502 P3202 19 15
TO VIDEO SUB
OSD CS 73
P6005 P6502 10 11
P6005 P6502 9 12
SERIAL CLOCK
SERIAL DATA
39 SERIAL CLOCK
40 SERIAL DATA
IC6006
P6007 P6901 2B 2B
CAMERA SW OUT
HSW
From VIDEO
IC2006
P6007 P6901 3B 3B
J6905 (REAR JACK)
6 AUTO OFF OUT
S. TAB Ⓗ
TO AUDIO
TO VIDEO
Q2502
REG 12. 3V
TO IC6001 ⑬
TO VR2006
TO VR2007
P6008 P6902 1A 1A
P6008 P6902 2A 2A
P6008 P6902 2B 2B
V LOCK 3H
V LOCK 6H
P6001
1 T. PHOTO
2 GND
3 POSW 2
4 POSW 1
5 POSW 3
6 S. PHOTO
7 SNS LED
8 S. REEL
9 REEL +B
10 T. REEL
11 LOADING M (+)
12 LOADING M (−)
13 S. TAB Ⓛ
+B
2
10
P1505
13 T. PHOTO
12 GND
11 POSW 2
10 POSW 1
9 POSW 3
8 S. PHOTO
7 SNS LED
6 S. REEL
5 REEL +B
4 T. REEL
3 LOADING M (+)
2 LOADING M (−)
1 S. TAB Ⓛ
TAKE UP PHOTO TR
Q1501
SUPPLY PHOTO TR
Q1502
D1501
SENSOR LED
IC1501
T. REEL SNS
IC1502
S. REEL SNS
SW1501
SAFETY TAB SW
MECHANISM CONNECTION
MODE SW
P1504
POSITION SW
P1503
P1508
LOADING MOTOR
INPUT | OUTPUT | MODE
PIN5 | PIN6 | PIN2 | PIN10
L | L | OPEN | OPEN | STOP
H | L | H | L | FORWARD
L | H | L | H | REWIND
H | H | L | L | BRAKE
<TIMING CHART>
SW 1
SW 2
SW 3
POSITION NO. 0 7 1 7 3 7 2 7 4 7 5 7 6
MODE EJECT CASSETTE DOWN MID REV PLAY STOP3 STOP FFREW
IC6503 MIC AMP
MIC JACK
IN
4
2
1
3
5
OUT
P6501 P6004 10 2
MIC OUT
TO SYSCON

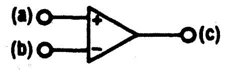
SYMBOL	TRUTH VALUE TABLE

INVERTER



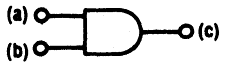
IN	(a)	H	L
OUT	(b)	L	H

COMPARTOR



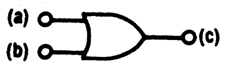
IN	(a) (b)	(a)>(b)	(a)<(b)
OUT	(c)	H	L

AND CIRCUIT



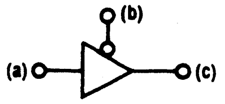
IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	L	L	H

OR CIRCUIT



IN	(a)	L	L	H	H
	(b)	L	H	L	H
OUT	(c)	L	H	H	H

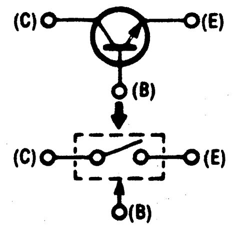
THREE STATES BUFFER



IN	(a)	H	L	H or L
	(b)	L	L	H
OUT	(c)	H	L	※

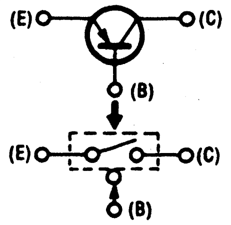
※ High impedance

TR. SW (NPN TYPE)



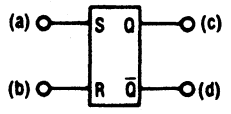
BASE	H	L
TR. SW	ON	OFF

TR. SW (PNP TYPE)



BASE	H	L
TR. SW	OFF	ON

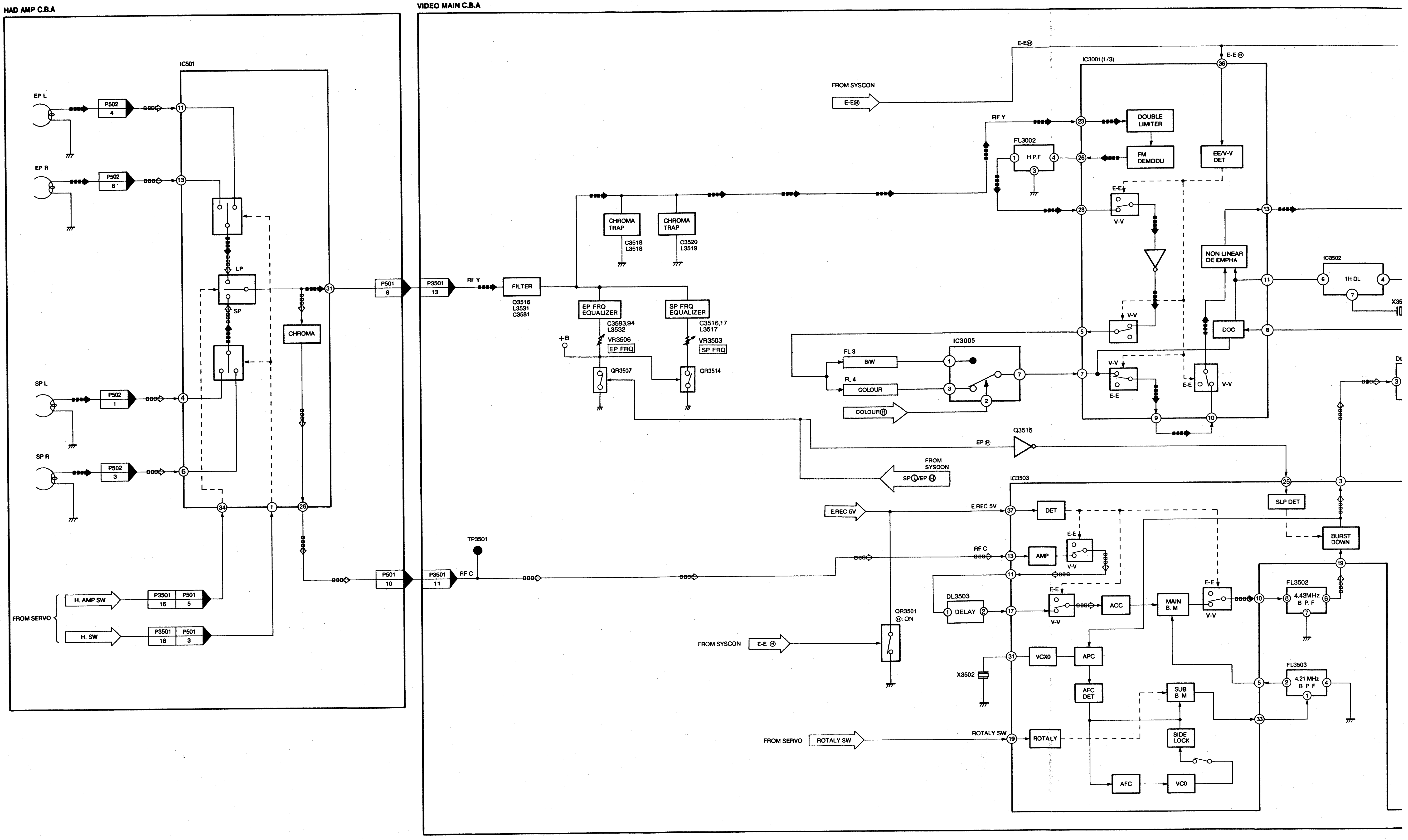
R-S TYPE FLIP-FLOP

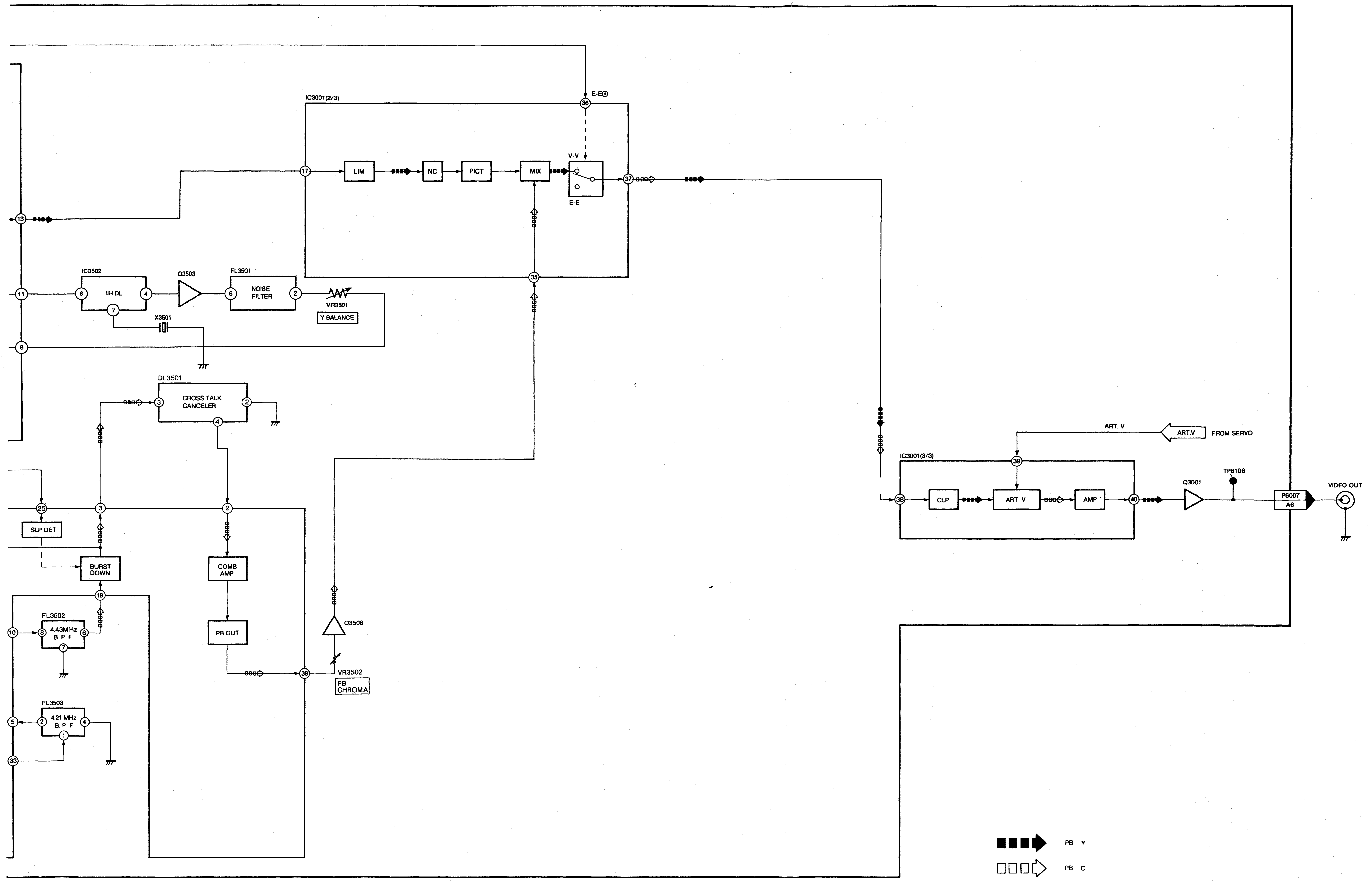


IN	(a)	L	L	⎍
	(b)	L	⎍	L
OUT	(c)	※	L	H
	(d)	◆	H	L

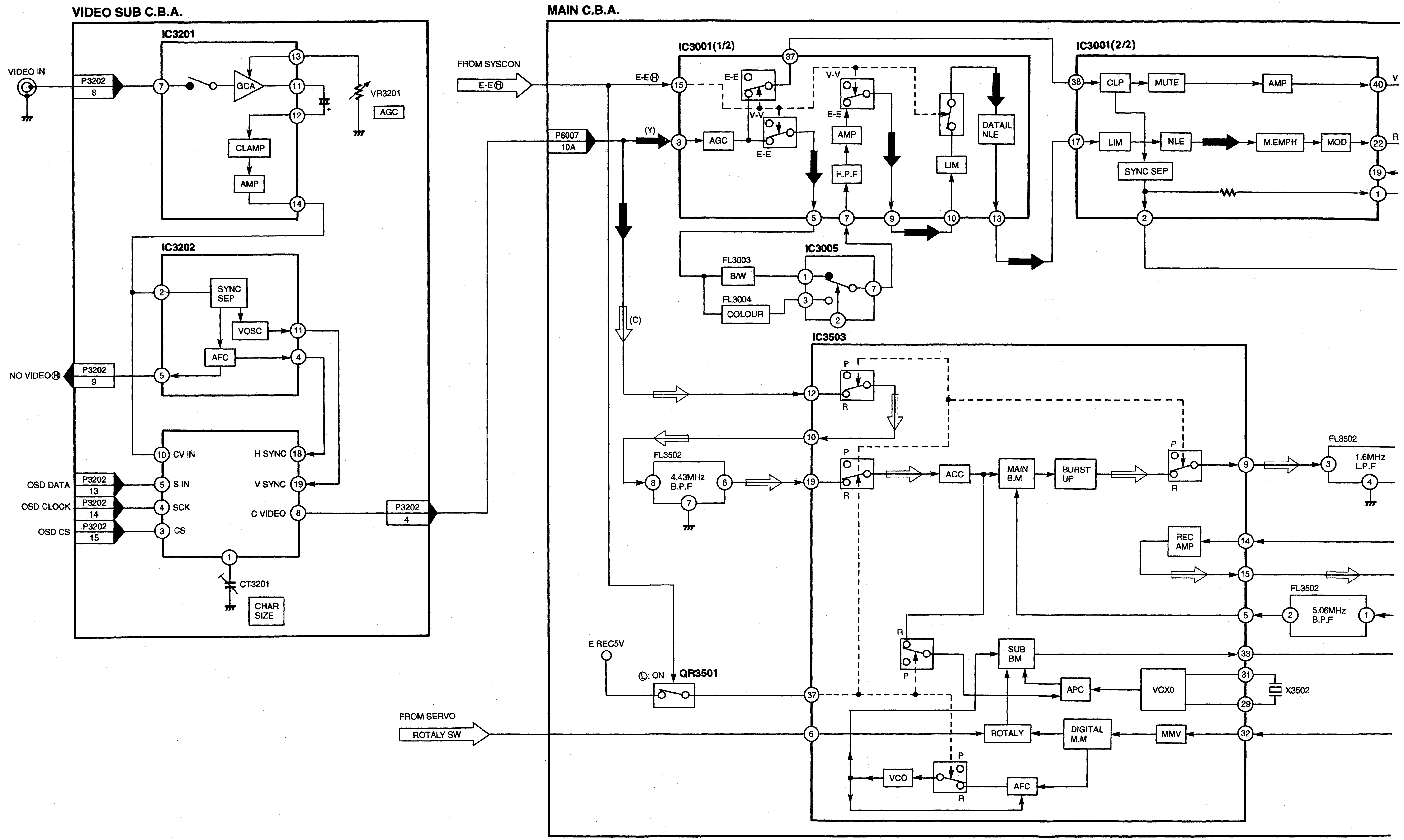
※ Initial condition is maintained.
◆ Initial condition is reversed.

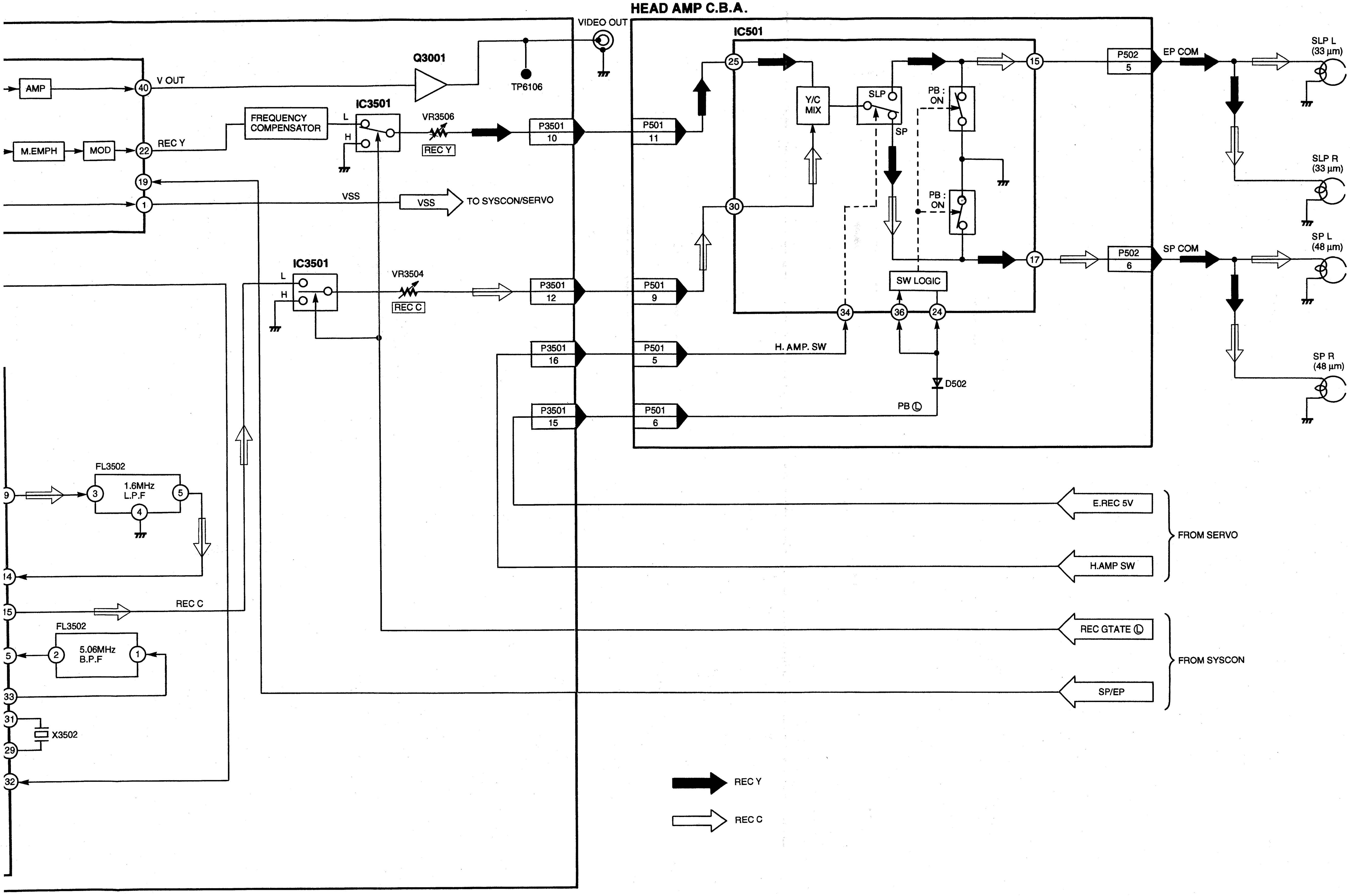
5-4. VIDEO (PLAY) BLOCK DIAGRAM


HAD AMP C.B.A
VIDEO MAIN C.B.A
IC501
EP L
EP R
SP L
SP R
P502
4
6
1
3
11
13
4
6
LP
SP
31
34
1
26
CHROMA
P501
8
10
P3501
13
11
FROM SERVO
H. AMP SW
H. SW
P3501
16
18
P501
5
3
RF Y
FILTER
Q3516
L3531
C3581
CHROMA TRAP
C3518
L3518
CHROMA TRAP
C3520
L3519
EP FRQ EQUALIZER
C3593,94
L3532
VR3506
EP FRQ
SP FRQ EQUALIZER
C3516,17
L3517
VR3503
SP FRQ
+B
QR3507
QR3514
TP3501
RF C
FROM SYSCON
E-E Ⓗ
E-E Ⓗ
IC3001(1/3)
36
RF Y
23
DOUBLE LIMITER
FL3002
H P.F
1
3
4
26
FM DEMODU
EE/V-V DET
28
E-E
V-V
13
NON LINEAR DE EMPHA
11
IC3502
6
1H DL
4
7
X35
DOC
8
5
V-V
IC3005
FL 3
B/W
FL 4
COLOUR
COLOUR Ⓗ
1
3
2
7
7
V-V
E-E
E-E
V-V
9
10
Q3515
EP Ⓗ
FROM SYSCON
SP Ⓛ/EP Ⓗ
IC3503
25
3
SLP DET
BURST DOWN
E.REC 5V
E.REC 5V
37
DET
RF C
13
AMP
E-E
V-V
11
DL3503
DELAY
1
2
17
E-E
V-V
ACC
MAIN B. M
E-E
V-V
10
19
FL3502
8
4.43MHz
B P. F
6
7
QR3501
Ⓗ: ON
FROM SYSCON
E-E Ⓗ
31
VCXO
APC
X3502
AFC DET
SUB B M
5
FL3503
2
4.21 MHz
B P F
4
1
33
FROM SERVO
ROTALY SW
ROTALY SW
19
ROTALY
SIDE LOCK
AFC
VC0
DL
3

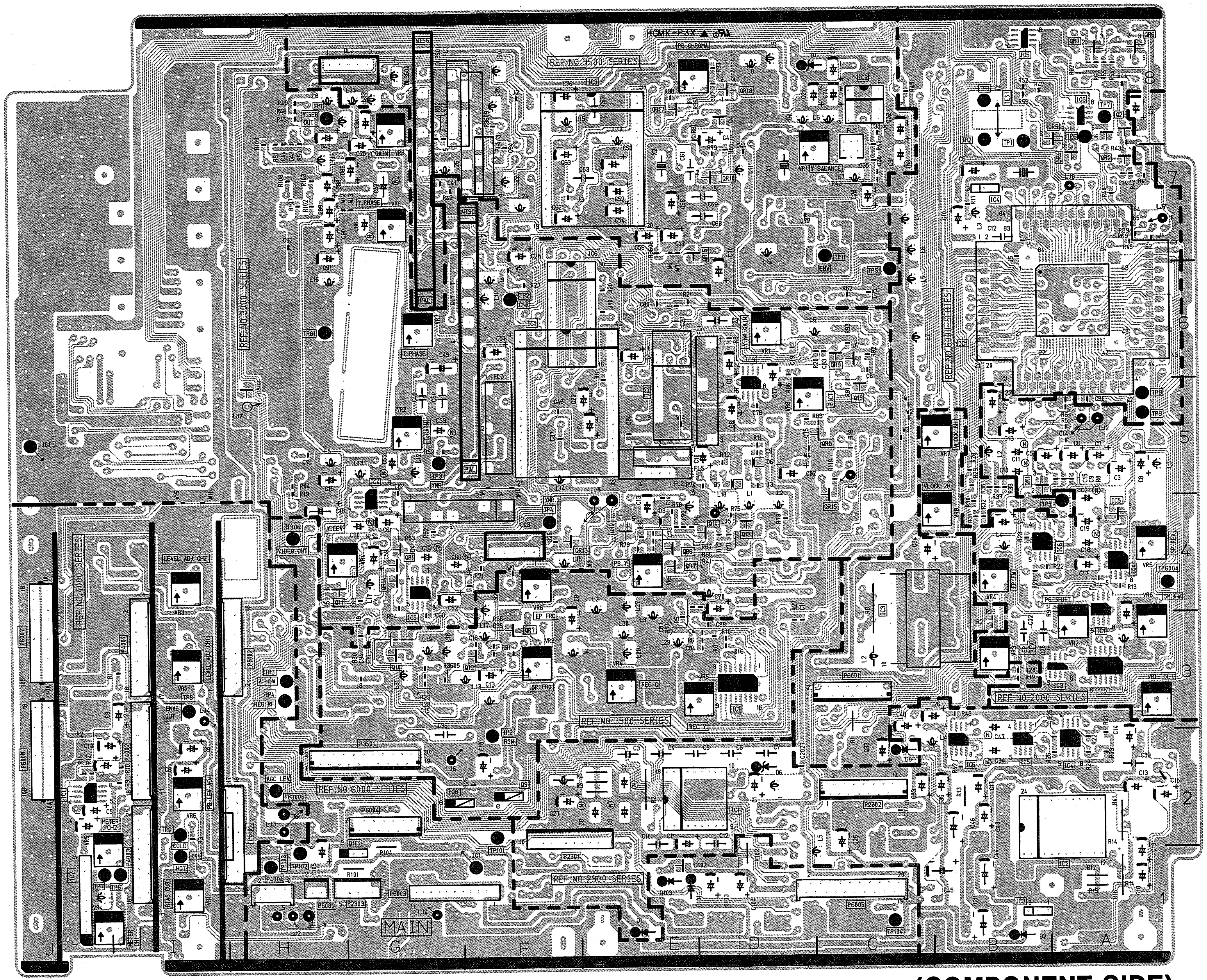

E-E⊕
IC3001(2/3)
36
V-V
17
LIM
NC
PICT
MIX
37
E-E
13
35
IC3502
1H DL
6
4
7
Q3503
FL3501
NOISE FILTER
6
2
VR3501
Y BALANCE
11
X3501
8
DL3501
CROSS TALK CANCELER
3
2
4
25
3
2
SLP DET
BURST DOWN
COMB AMP
19
FL3502
4.43MHz B P F
10
8
6
7
PB OUT
Q3506
38
VR3502
PB CHROMA
FL3503
4.21 MHz B. P F
5
2
4
1
33
ART. V
ART.V
FROM SERVO
IC3001(3/3)
39
38
CLP
ART V
AMP
40
Q3001
TP6106
P6007
A6
VIDEO OUT
PB Y
PB C

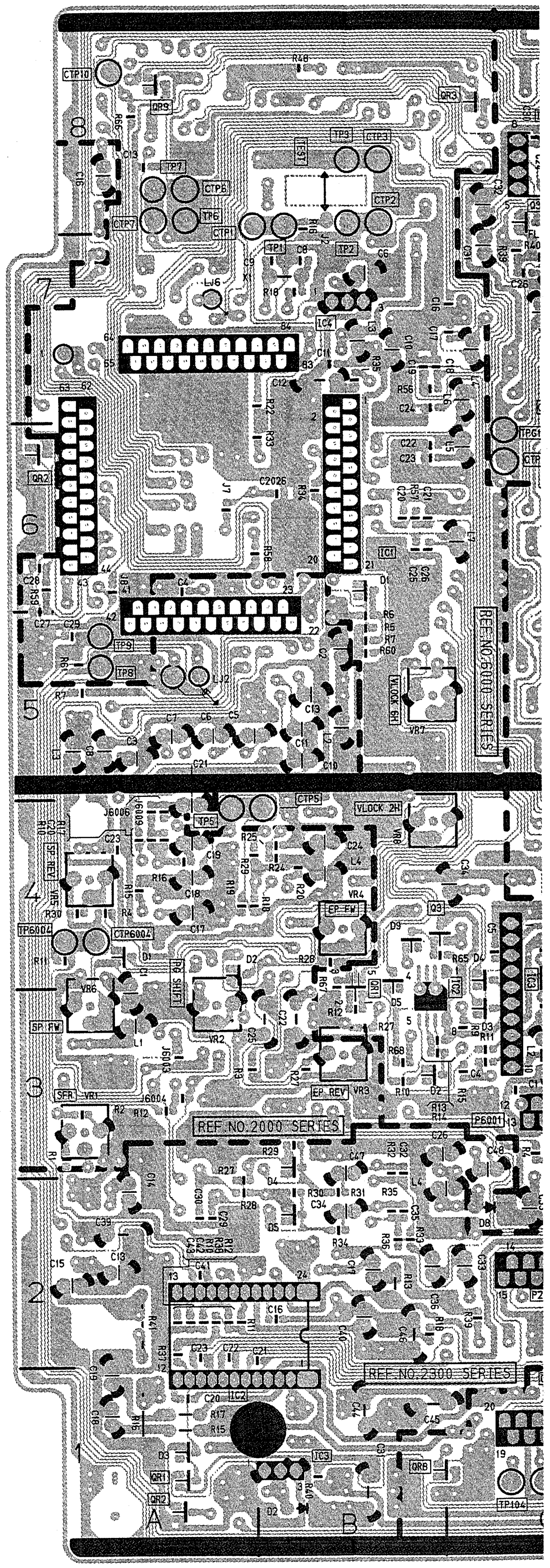
5-5. VIDEO (REC) BLOCK DIAGRAM


VIDEO SUB C.B.A.
MAIN C.B.A.
IC3201
VIDEO IN
P3202
8
GCA
VR3201
AGC
CLAMP
AMP
IC3202
SYNC SEP
VOSC
AFC
NO VIDEOⒽ
P3202
9
CV IN
H SYNC
V SYNC
C VIDEO
S IN
SCK
CS
OSD DATA
P3202
13
OSD CLOCK
P3202
14
OSD CS
P3202
15
CT3201
CHAR SIZE
P3202
4
FROM SYSCON
E-EⒽ
P6007
10A
(Y)
(C)
IC3001(1/2)
E-E
V-V
AGC
AMP
H.P.F
LIM
DATAIL NLE
IC3005
FL3003
B/W
FL3004
COLOUR
IC3001(2/2)
CLP
MUTE
AMP
LIM
NLE
M.EMPH
MOD
SYNC SEP
IC3503
P
R
FL3502
4.43MHz B.P.F
ACC
MAIN B.M
BURST UP
FL3502
1.6MHz L.P.F
REC AMP
FL3502
5.06MHz B.P.F
SUB BM
APC
VCXO
X3502
E REC5V
Ⓛ: ON
QR3501
FROM SERVO
ROTALY SW
ROTALY
DIGITAL M.M
MMV
VCO
AFC

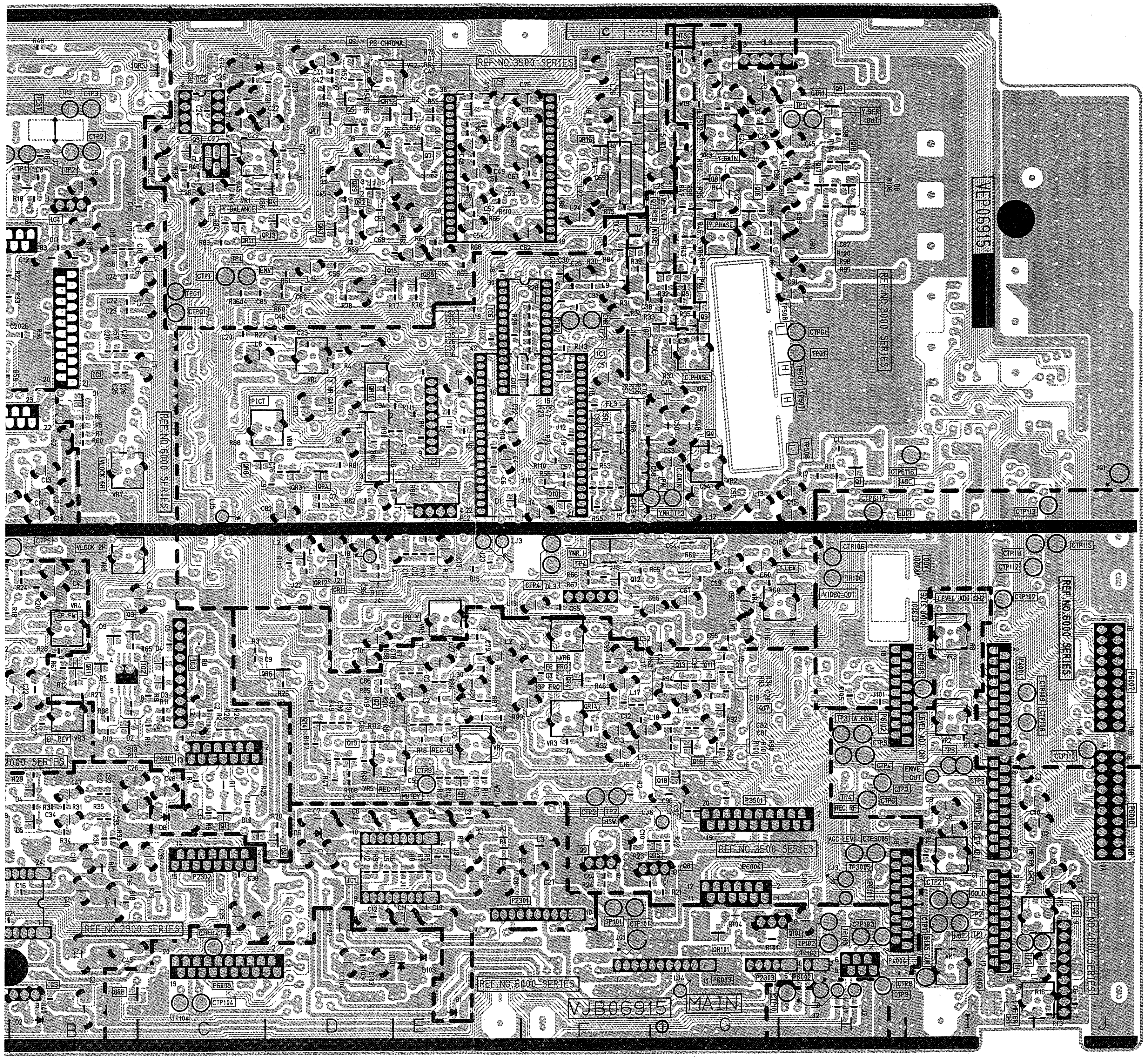

HEAD AMP C.B.A.
VIDEO OUT
Q3001
TP6106
AMP
V OUT
M.EMPH
MOD
REC Y
FREQUENCY COMPENSATOR
IC3501
L
H
VR3506
REC Y
P3501 10
P501 11
VSS
VSS
TO SYSCON/SERVO
IC3501
L
H
VR3504
REC C
P3501 12
P501 9
P3501 16
P501 5
H. AMP. SW
P3501 15
P501 6
PB Ⓛ
D502
IC501
Y/C MIX
SLP
SP
PB : ON
PB : ON
SW LOGIC
P502 5
EP COM
P502 6
SP COM
SLP L (33 µm)
SLP R (33 µm)
SP L (48 µm)
SP R (48 µm)
FL3502
1.6MHz L.P.F
FL3502
5.06MHz B.P.F
X3502
REC C
E.REC 5V
H.AMP SW
FROM SERVO
REC GTATE Ⓛ
SP/EP
FROM SYSCON
REC Y
REC C
40
22
19
1
25
30
15
17
34
36
24
9
3
4
5
14
15
5
2
1
33
31
29
32

6-1. MAIN C.B.A. (VEP06915C)


HCMK-P3X
REF.NO.3500 SERIES
REF.NO.3000 SERIES
REF.NO.6000 SERIES
REF.NO.2000 SERIES
REF.NO.2300 SERIES
LEVEL ADJ CH1
LEVEL ADJ CH2
VIDEO OUT
C.PHASE
Y.BALANCE
Y.PHASE
VLOCK 2H
ENVE OUT
AGC LEV
REC C
REC Y
SP FRQ
EP FRQ
PB LEV ADJ
BIAS CUR
COLD
HOT
MAIN
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8


REF.NO.6000 SERIES
REF.NO.2000 SERIES
REF.NO.2300 SERIES
VLOCK 2H
A
B
1
2
3
4
5
6
7
8

(COMPONENT SIDE)

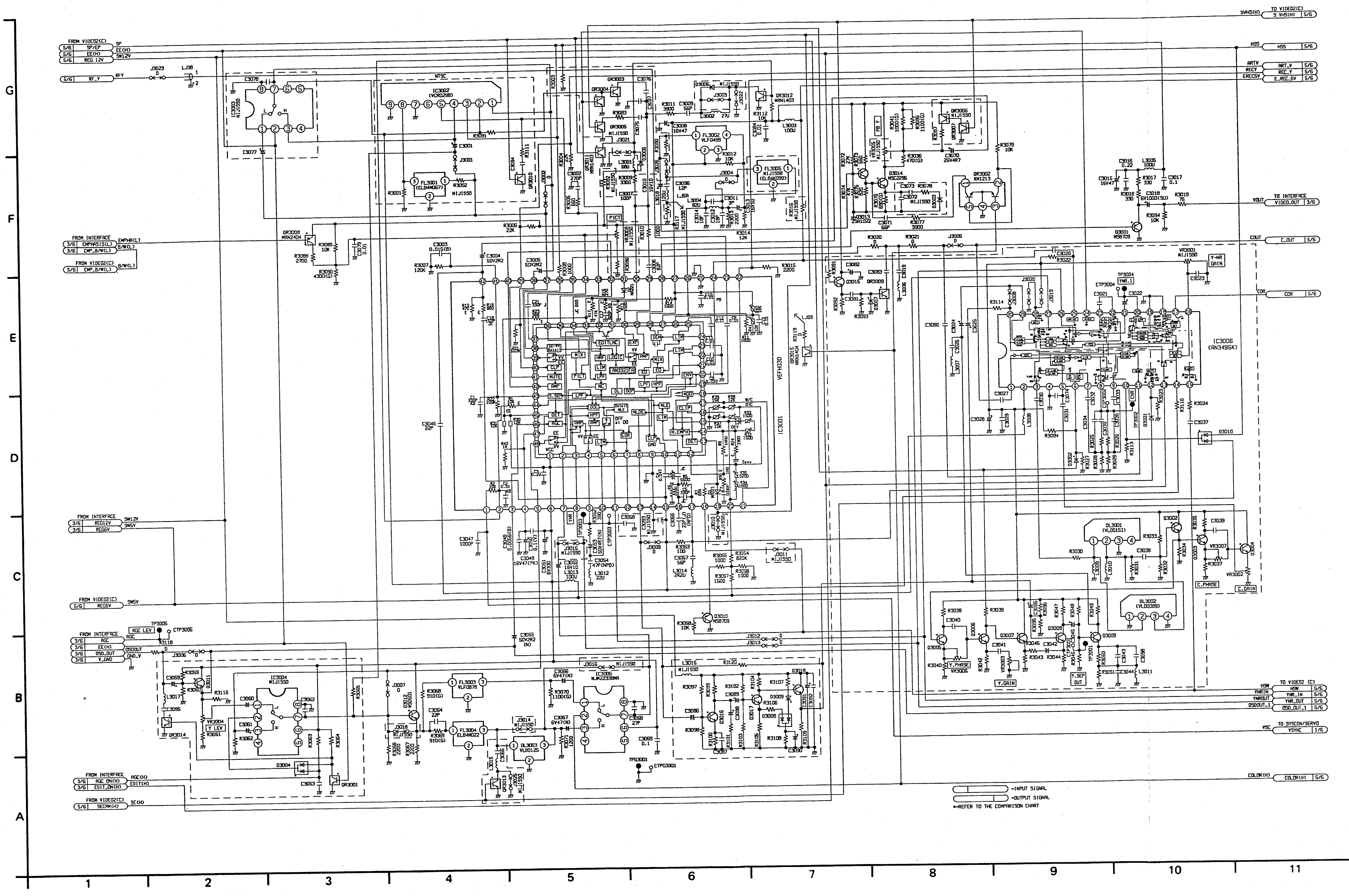


(FOIL SIDE)

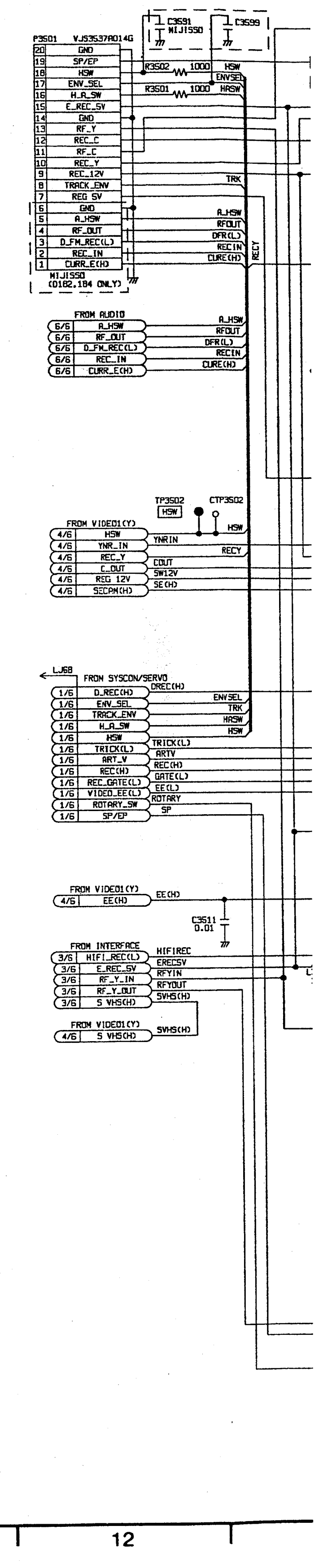
MAIN(VEP06915E)					
COMPONENT SIDE				FOIL SIDE	
TRANSISTOR		TP4006	I-1	**TRANSISTOR**	
Q3011	H-4	TP4007	J-1	Q3001	H-5
Q3013	D-4	TP6001	B-8	Q3002	G-6
Q3014	D-4	TP6002	B-8	Q3003	G-6
Q3015	C-5	TP6003	B-8	Q3004	G-5
Q3508	G-2	TP6004	A-4	Q3005	G-6
Q3509	F-2	TP6005	A-4	Q3006	G-7
Q3510	G-3	TP6006	A-8	Q3007	G-7
Q3512	F-3	TP6007	A-8	Q3008	G-7
Q6002	A-8	TP6008	A-5	Q3009	H-8
Q6101	G-2	TP6009	A-5	Q3010	F-5
TRANSISTOR RESISTOR		TP6101	F-2	Q3012	F-4
QR2001	B-5	TP6102	H-1	Q3016	G-7
QR3001	G-4	TP6103	H-1	Q3017	H-7
QR3002	E-4	TP6104	C-1	Q3018	H-7
QR3005	C-5	TP6106	H-4	Q3501	E-3
QR3006	E-4	TPG3001	H-6	Q3502	E-3
QR3007	E-4	TPG3501	C-6	Q3503	C-8
QR3009	C-6	**CONNECTOR**		Q3504	D-7
QR3013	F-4	P2301	F-2	Q3505	D-8
QR3014	G-4	P2302	C-2	Q3506	D-8
QR3015	C-5	P2303	G-1	Q3507	E-8
QR3507	F-3	P3501	G-2	Q3511	G-3
QR3510	D-7	P4001	I-3	Q3513	G-3
QR3515	D-7	P4002	I-2	Q3514	D-3
QR3517	E-8	P4003	I-2	Q3515	E-7
QR3518	D-8	P4004	H-1	Q3516	G-3
QR6002	A-7	P6001	C-3	Q3517	G-3
QR6005	A-8	P6002	H-1	Q3518	G-3
QR6006	A-8	P6003	G-1	Q3519	D-3
INTEGRATED CIRCUITS		P6004	G-2	Q6001	C-2
IC2001	A-3	P6005	C-1	Q6004	D-2
IC2004	A-4	P6007	J-3	**TRANSISTOR RESISTOR**	
IC2302	A-2	P6008	J-2	QR2301	A-1
IC2303	B-1	**ADJUSTMENT**		QR2302	A-1
IC2304	A-2	VR2001	A-3	QR3003	D-5
IC2305	B-2	VR2002	A-3	QR3004	D-5
IC2306	B-2	VR2003	B-3	QR3008	C-5
IC3001	F-6	VR2004	B-4	QR3010	D-6
IC3002	E-5	VR2005	A-4	QR3011	D-4
IC3003	D-6	VR2006	A-3	QR3012	D-4
IC3004	G-5	VR2007	B-5	QR3501	D-8
IC3005	G-4	VR2008	B-4	QR3502	D-7
IC3006	F-6	VR3001	D-6	QR3503	D-7
IC3501	D-3	VR3002	G-5	QR3504	F-3
IC3502	C-8	VR3003	G-8	QR3505	G-2
IC3503	E-8	VR3004	G-4	QR3506	D-3
IC4001	J-2	VR3005	E-4	QR3508	E-7
IC4002	J-1	VR3006	G-7	QR3509	D-7
IC6001	A-6	VR3007	G-6	QR3511	C-7
IC6003	C-4	VR3008	D-5	QR3512	D-8
IC6004	B-7	VR3501	C-7	QR3513	D-7
IC6006	A-8	VR3502	D-8	QR3514	F-3
TESTPOINT		VR3503	F-3	QR3516	F-8
TP3001	H-8	VR3504	E-3	QR6001	B-4
TP3002	F-6	VR3505	D-3	QR6008	B-1
TP3003	G-5	VR3506	F-4	QR6101	G-1
TP3004	F-4	VR4001	I-1	**INTEGRATED CIRCUITS**	
TP3005	H-2	VR4002	I-3	IC6002	B-3
TP3501	C-7	VR4003	I-4		
TP3502	F-3	VR4004	J-1		
TP4001	I-1	VR4005	J-2		
TP4002	I-2	VR4006	I-2		
TP4003	H-3				
TP4004	H-3				
TP4005	I-3				

ADDRESS INFORMATION

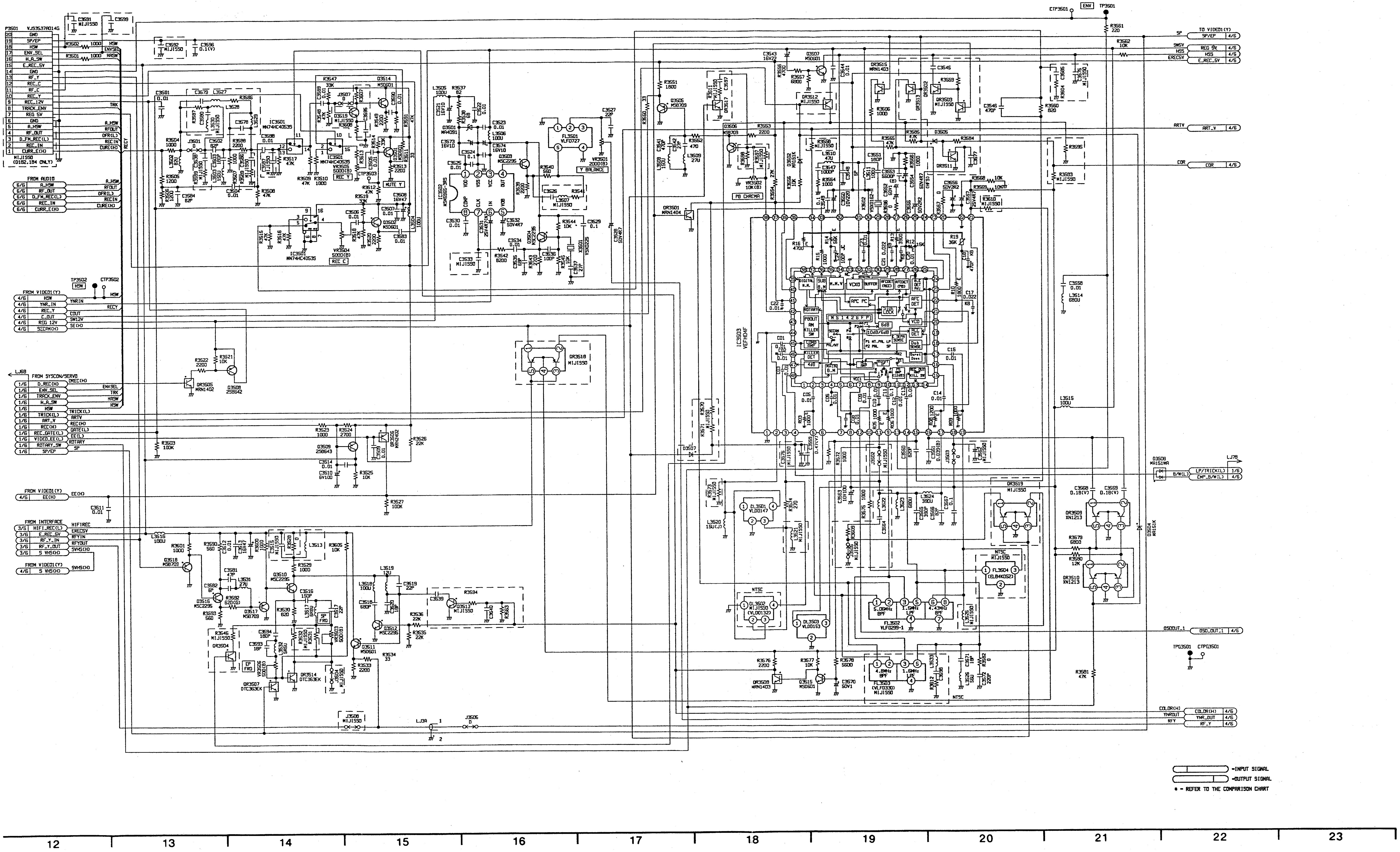
6-2. VIDEO 1 SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
FROM VIDEO2(C)
SP/EP
EE(H)
SW12V
REG 12V
RF_Y
FROM INTERFACE
EMPHA515(L)
EMP_B/W(L)
FROM VIDEO2(C)
EMP_B/W(L)
NTSC
IC3002 (VCR0298)
FL3001 (ELB4M067)
IC3001
VEFH030
IC3006 (AN3495K)
FROM INTERFACE
REG12V
REG5V
FROM VIDEO2(C)
REG5V
FROM INTERFACE
AGC
EE(H)
OSD_OUT
V_GND
IC3004 MIJ1550
IC3005 MLM2233BMA
FL3003 VLF0078
FL3004 ELB4M022
DL3003 VLD0125
DL3001 (VLD0151)
DL3002 (VLD0089)
FROM INTERFACE
AGC ON(H)
EDIT_ON(H)
FROM VIDEO2(C)
SECAM(H)
TO VIDEO2(C)
S VHS(H)
HSS
ART_Y
REC_Y
E_REC_5V
TO INTERFACE
VIDEO_OUT
C_OUT
CDR
Y-NR GAIN
C.PHASE
C.GAIN
Y.PHASE
Y.GAIN
Y.SEP OUT
Y LEV
AGC LEV
TO VIDEO2 (C)
HSW
YNR_IN
YNR_OUT
OSD_OUT_1
TO SYSCON/SERVO
VSYNC
COLOR(H)
INPUT SIGNAL
OUTPUT SIGNAL
*-REFER TO THE COMPARISON CHART

6-3. VIDEO 2 SC


P3501 VJ53537A014G
GND
SP/EP
HSW
ENV_SEL
H_A_SW
E_REC_5V
GND
RF_Y
REC_C
RF_C
REC_Y
REC_12V
TRACK_ENV
REG 5V
GND
A_HSW
RF_OUT
D_FM_REC(L)
REC_IN
CURR_E(H)
FROM AUDIO
FROM VIDEO1(Y)
FROM SYSCON/SERVO
FROM INTERFACE
12

6-3. VIDEO 2 SCHEMATIC DIAGRAM


P3501 VJ5353700146
FROM AUDIO
FROM VIDEO1(Y)
FROM SYSCON/SERVO
FROM INTERFACE
TO VIDEO1(Y)
IC3501 MN74HC4053S
IC3502
IC3503 VEFH04F
FL3501 VLF0727
FL3502 VLF0289-1
FL3503 (VLF0330) MIJ1550
DL3501 VLD0147
DL3502 MIJ1550 (VLD0132)
DL3503 VLD0153
FL3504 (ELB4K0S2)
Y BALANCE
PB CHROMA
REC C
MUTE Y
NTSC
=INPUT SIGNAL
=OUTPUT SIGNAL
* - REFER TO THE COMPARISON CHART
12
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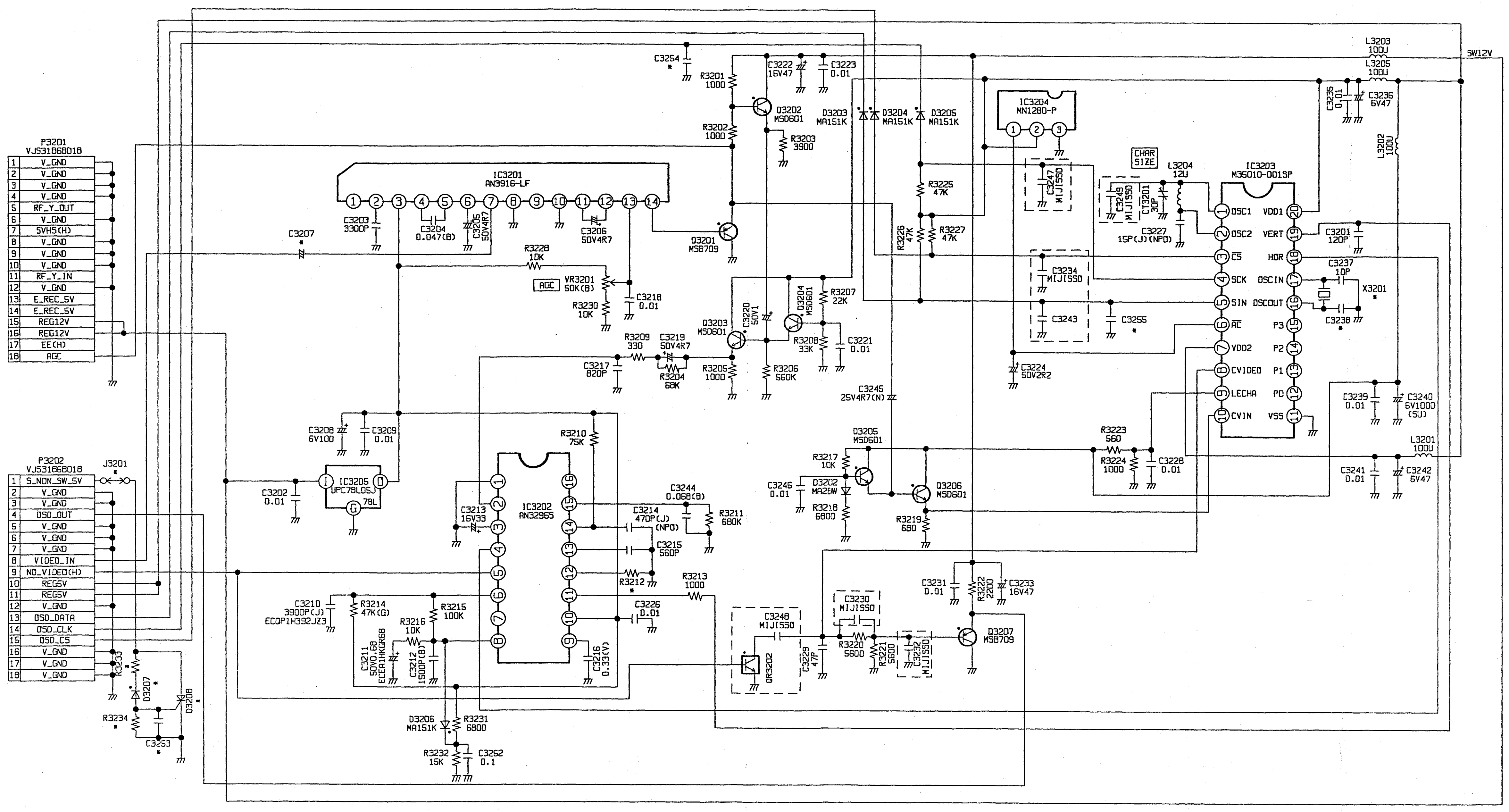
23

6-4. VIDEO SUB SCHEMATIC DIAGRAM


P3201
VJS3186B018
1 V_GND
2 V_GND
3 V_GND
4 V_GND
5 RF_Y_OUT
6 V_GND
7 SVHS(H)
8 V_GND
9 V_GND
10 V_GND
11 RF_Y_IN
12 V_GND
13 E_REC_5V
14 E_REC_5V
15 REG12V
16 REG12V
17 EE(H)
18 AGC
P3202
VJS3186B018
1 S_NON_SW_5V
2 V_GND
3 V_GND
4 OSD_OUT
5 V_GND
6 V_GND
7 V_GND
8 VIDEO_IN
9 NO_VIDEO(H)
10 REG5V
11 REG5V
12 V_GND
13 OSD_DATA
14 OSD_CLK
15 OSD_CS
16 V_GND
17 V_GND
18 V_GND
J3201 *
R3233 *
D3207 *
D3208 *
R3234 *
C3253 *
IC3201
AN3916-LF
C3203 3300P
C3204 0.047(B)
C3205 50V4R7
C3206 50V4R7
C3207 *
R3228 10K
AGC
VR3201 50K(B)
R3230 10K
C3218 0.01
Q3201 MSB709
C3254 *
R3201 1000
C3222 16V47
C3223 0.01
Q3202 MSD601
R3202 1000
R3203 3900
D3203 MA151K
D3204 MA151K
D3205 MA151K
R3225 47K
R3226 47K
R3227 47K
Q3203 MSD601
C3220 50V1
Q3204 MSD601
R3207 22K
R3208 33K
C3221 0.01
R3209 330
C3219 50V4R7
C3217 820P
R3204 68K
R3205 1000
R3206 560K
C3245 25V4R7(N)
C3208 6V100
C3209 0.01
IC3205 UPC78L05J 78L
C3202 0.01
R3210 75K
IC3202 AN3296S
C3213 16V33
C3244 0.068(B)
C3214 470P(J) (NPO)
R3211 680K
C3215 560P
R3212 *
R3213 1000
C3226 0.01
C3216 0.33(V)
C3210 3900P(J) ECQP1H392JZ3
R3214 47K(G)
R3215 100K
R3216 10K
C3211 50V0.68 ECEA1HKGR68
C3212 1500P(B)
D3206 MA151K
R3231 6800
R3232 15K
C3252 0.1
Q3205 MSD601
R3217 10K
C3246 0.01
D3202 MA28W
R3218 6800
Q3206 MSD601
R3219 680
C3248 MIJISSO
QR3202
C3229 47P
C3230 MIJISSO
R3220 5600
R3221 5600
C3232 MIJISSO
C3231 0.01
R3222 2200
C3233 16V47
Q3207 MSB709
IC3204 MN1280-P
C3247 MIJISSO
C3249 MIJISSO
CT3201 30P
CHAR SIZE
L3204 12U
C3227 15P(J)(NPO)
C3234 MIJISSO
C3243
C3255 *
C3224 50V2R2
IC3203 M35010-001SP
OSC1 VDD1
OSC2 VERT
CS HOR
SCK OSCIN
SIN OSCOUT
AC P3
VDD2 P2
CVIDEO P1
LECHA P0
CVIN VSS
C3201 120P
C3237 10P
X3201 *
C3238 *
R3223 560
R3224 1000
C3228 0.01
L3203 100U
L3205 100U
SW12V
C3235 0.01
C3236 6V47
L3202 100U
C3239 0.01
C3240 6V1000 (SU)
L3201 100U
C3241 0.01
C3242 6V47

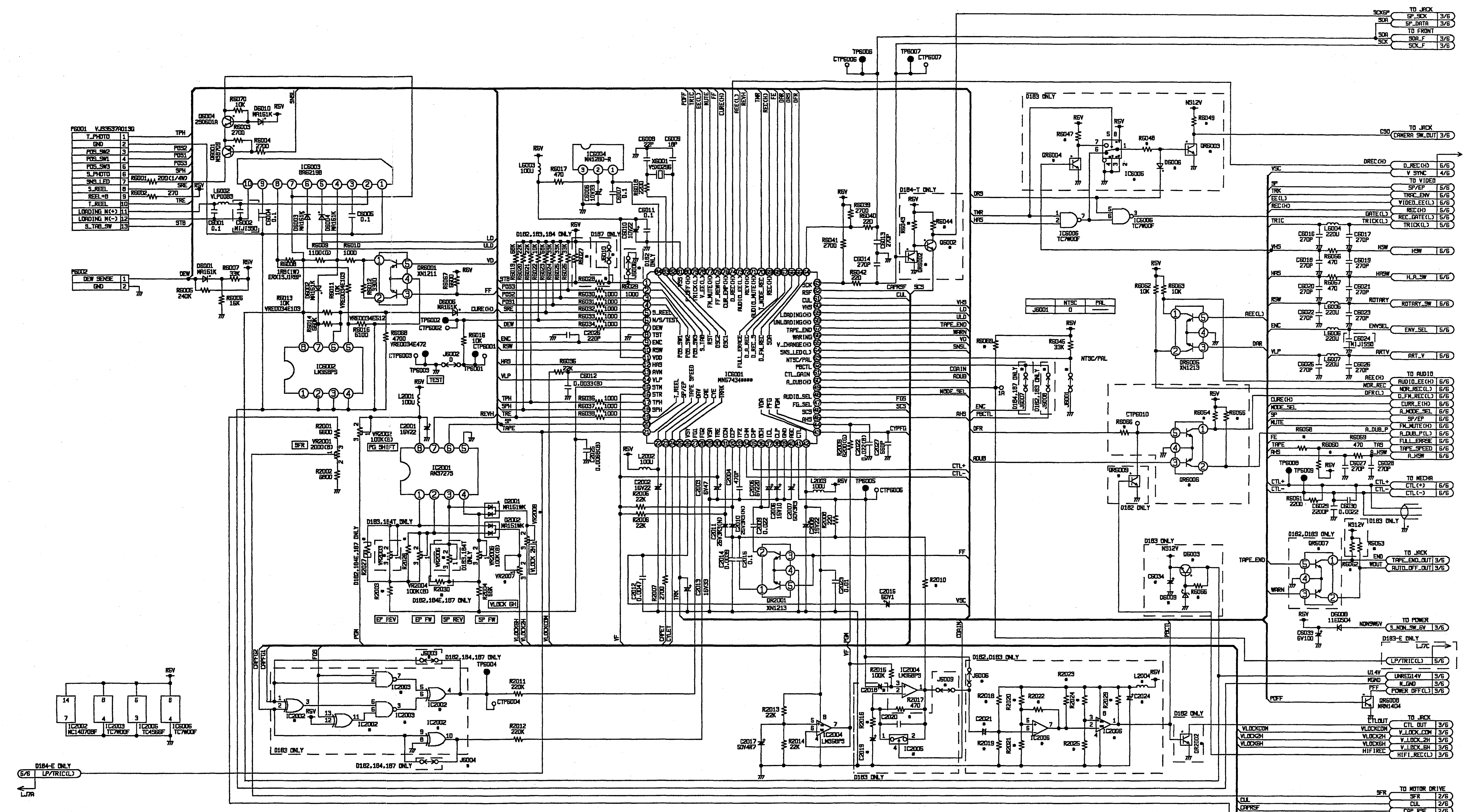
	D183-T.P -DC-P	D183-E.B
C3207	50V3R3(N)	16V22(N)
C3238	18P	10P
C3253	———	0.1(V)
C3254	33P	———
C3255	33P	———
D3207	———	MA3062-M
D3208	———	8P2M
J3201	———	0
R3212	10K	11K(G)
R3233	———	100(1/4W)
R3234	———	1000
X3201	VSX0365	VSX0574

=INPUT SIGNAL
=OUTPUT SIGNAL
*=REFER TO THE COMPARISON CHART

6-5. SYSTEM C

P6001 VJS3537A013G
T_PHOTO 1
GND 2
POS_SW2 3
POS_SW1 4
POS_SW3 5
S_PHOTO 6
SNS_LED 7
S_REEL 8
REEL+B 9
T_REEL 10
LOADING M(+) 11
LOADING M(-) 12
S_TAB_SW 13
R6001
R6002
P6002
DEW SENSE 1
GND 2
14
7
8
4
6
3
IC2002 MC14070BF
IC2003 TC7W00F
IC2006
D184-E ONLY
6/6 LP/TRIC(L)
L/7A

6-5. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM


IC6001 MN67434####
IC6003 BA6219B
IC6004 MN1280-R
IC2001 AN3727S
IC6002 LM358PS
IC2002 MC14070BF
IC2003 TC7W00F
IC2005 TC4S66F
IC6006 TC7W00F
IC6005 TC4W53F
IC2004 LM358PS
IC2006
X6001 VSX0296
QR6001 XN1211
QR6005 XN1213
QR6006
QR6007
QR2001 XN1213
QR6008 MRN1404
P6001 VJS3537A013G
P6002
T_PHOTO
POS_SW2
POS_SW1
POS_SW3
S_PHOTO
SNS_LED
S_REEL
REEL+B
T_REEL
LOADING M(+)
LOADING M(-)
S_TAB_SW
DEW SENSE
GND
TO JACK
SP_SCK
SP_DATA
TO FRONT
SDA_F
SCK_F
CAMERA SW_OUT
D_REC(H)
V SYNC
TO VIDEO
SP/EP
TRAC_ENV
VIDEO_EE(L)
REC(H)
REC_GATE(L)
TRICK(L)
H_A_SW
ROTARY_SW
ENV_SEL
ART_V
TO AUDIO
AUDIO_EE(H)
NOR_REC(L)
D_FM_REC(L)
CURR_E(H)
A_MODE_SEL
FM_MUTE(H)
A_DUB_P(L)
FULL_ERASE
TAPE_SPEED
A_HSW
TO MECHA
CTL(+)
CTL(-)
TAPE_END_OUT
AUTO_OFF_OUT
TO POWER
S_NON_SW_6V
LP/TRIC(L)
UNREG14V
M_GND
POWER OFF(L)
CTL OUT
V_LOCK_COM
V_LOCK_2H
V_LOCK_6H
HIFI_REC(L)
TO MOTOR DRIVE
SFR
CUL
CAP_RSF
CAP_ET
CYL_ET
CYL_PFG
CAP_FG1
CAP_FG2
BACK_SYS6V
D183 ONLY
D182 ONLY
D182,D183,D184 ONLY
D182,184,187 ONLY
D184-T ONLY
D184-E ONLY
EP REV
EP FW
SP REV
SP FW
SFR
PG SHIFT
TEST

	D183
R2027	—
R2028	—
R2030	—
VR2003	100K(B)
VR2005	100K(B)
C6006	10V100

	D182.D183.D184
J6010	—
R6027	22K
R6028	1000

	D183-E.B	D183-T.P
IC6001	VMEB	VMEF

	D182.D183.D184	D183-T.P	D183-E.B
VR2007	200K	200K	100K
VR2008	200K	200K	100K
R2003	56K	56K	27K
R6058	—	0	0
R6060	—	27K	27K
R6069	33K	—	—

	D183
C2018	16V10(N)
C2019	10V33
C2020	150P
C2021	16V10(N)
C2024	16V22
C6034	16V22
D6006	MA151K-TW
D6009	MA3120-M
IC2002	MC14070BF
IC2003	TC7W00F
IC2005	TC4S66F
IC2006	LM393PS
IC6005	TC4W53F

	D183
J6003	—
J6004	—
J6005	—
J6006	—
J6007	—
J6008	0
J6009	0
L2004	100U
Q6002	—
Q6003	MSD601
QR2002	—
QR6002	—
QR6003	MRN1402

	D183
QR6004	MRN1404
QR6006	—
QR6007	XN1213-TW
QR6009	—
R2010	—
R2016	330
R2018	22K(G)
R2019	22K(G)
R2020	22K(G)
R2021	33K(G)
R2022	220K(G)
R2023	10K
R2024	22K

	D183
R2025	22K
R2029	10K
R6043	—
R6044	—
R6047	5600
R6048	22K
R6049	5600
R6054	—
R6055	—
R6062	4700
R6063	4700
R6065	1000
R6066	—

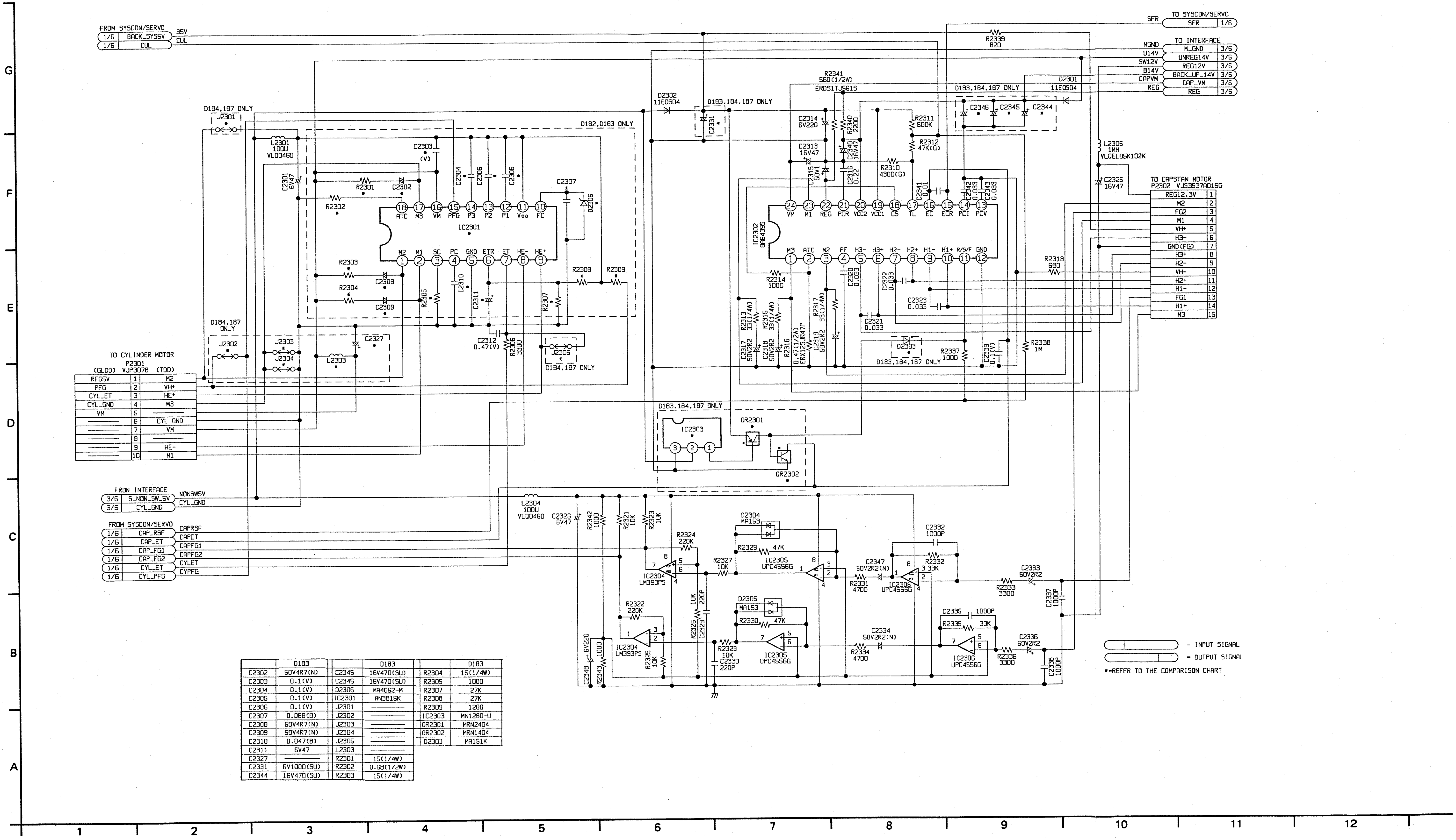
⊂ ⊃ - INPUT SIGNAL

⊂ ⊃ - OUTPUT SIGNAL

* - REFER TO THE COMPARISON CHART

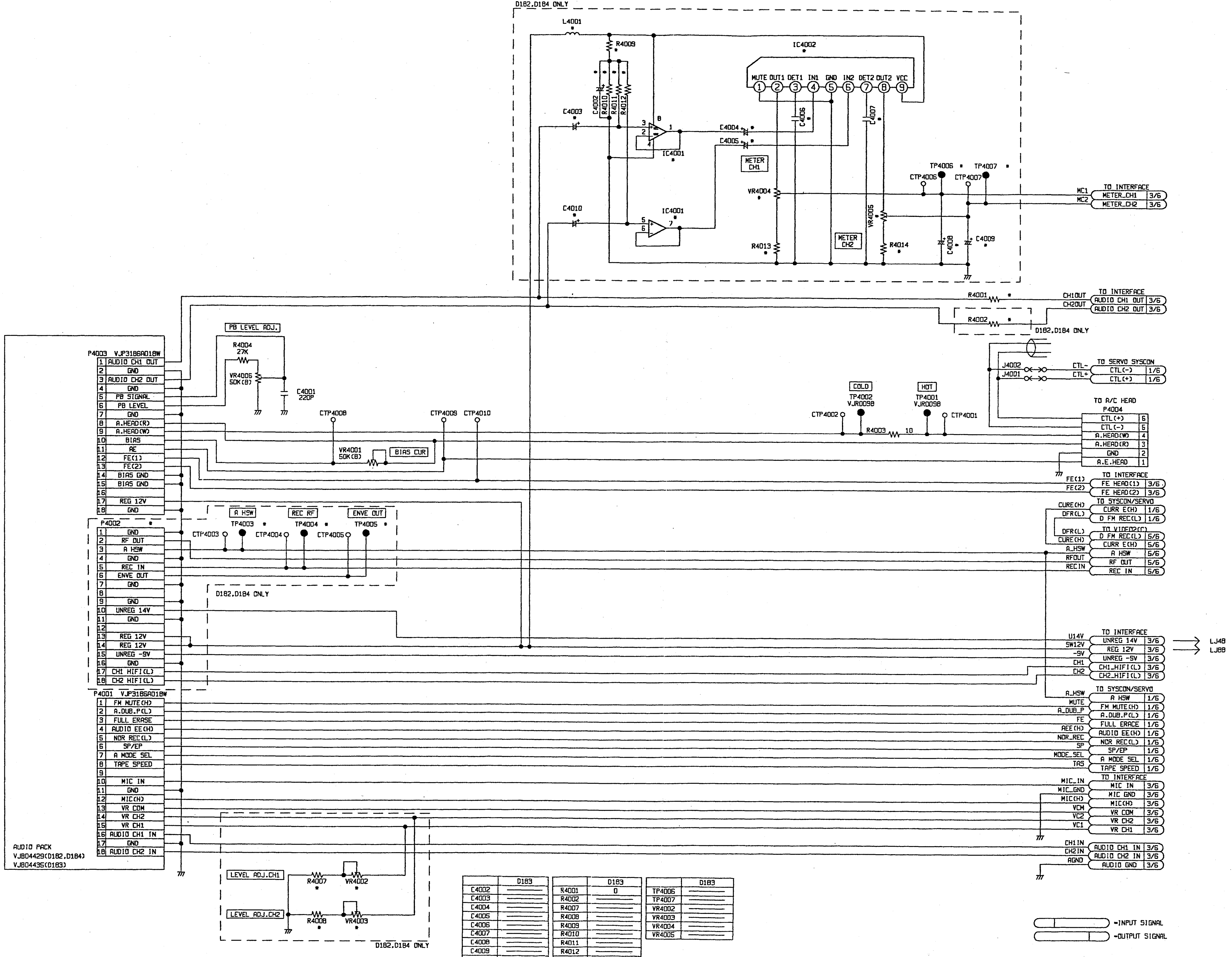
12 13 14 15 16 17 18 19 20 21 22 23

6-6. MOTOR DRIVE SCHEMATIC DIAGRAM


FROM SYSCON/SERVO
1/6 BACK_SYS5V
1/6 CUL
B5V
CUL
TO SYSCON/SERVO
SFR
SFR 1/6
TO INTERFACE
MGND
U14V
SW12V
B14V
CAPVM
REG
M_GND 3/6
UNREG14V 3/6
REG12V 3/6
BACK_UP_14V 3/6
CAP_VM 3/6
REG 3/6
R2339 820
R2341 560(1/2W) ERD51TJ561S
D2302 11EQ504
D2301 11EQ504
D183,184,187 ONLY
D184,187 ONLY
D182,D183 ONLY
J2301
L2301 100U VLQ0460
C2301 6V47
C2303 (V)
C2304
C2305
C2306
C2307
D2306
R2301
C2302
R2302
IC2301
ATC M3 VM PFG P3 P2 P1 Vcc FC
M2 M1 SC PC GND ETR ET HE- HE+
R2303
C2308
R2304
C2309
R2305
C2310
C2311
R2307
R2306 3300
R2308
R2309
C2312 0.47(V)
J2302
J2303
J2304
L2303
C2327
J2305
TO CYLINDER MOTOR
P2301
(GLDD) VJP307B (TDD)
REG5V 1 M2
PFG 2 VH+
CYL_ET 3 HE+
CYL_GND 4 M3
VM 5
6 CYL_GND
7 VM
8
9 HE-
10 M1
FRON INTERFACE
3/6 S_NON_SW_5V
3/6 CYL_GND
NONSW5V
CYL_GND
FROM SYSCON/SERVO
1/6 CAP_RSF
1/6 CAP_ET
1/6 CAP_FG1
1/6 CAP_FG2
1/6 CYL_ET
1/6 CYL_PFG
CAPRSF
CAPET
CAPFG1
CAPFG2
CYLET
CYPFG
C2331
C2314 6V220
C2340 2200
C2313 16V47
C2346
C2345
C2344
R2311 680K
R2312 47K(G)
R2310 4300(G)
C2315 50V1
C2316 0.22
C2341 0.01
C2342 0.033
C2343 0.033
IC2302 BA6435S
VM M1 REG PCR VCC2 VCC1 CS TL EC ECR PC1 PCV
M3 ATC M2 PF H3- H3+ H2- H2+ H1- H1+ R/S/F GND
R2314 1000
C2320 0.033
C2322 0.033
C2323 0.033
C2321 0.033
R2313 33(1/4W)
R2315 33(1/4W)
R2316 0.47(1/2W) ERX12SJR47P
R2317 33(1/4W)
C2317 50V2R2
C2318 50V2R2
C2319 50V2R2
D2303
R2337 1000
C2339 0.1(V)
R2338 1M
R2318 680
L2305 1MH VLQEL05K102K
C2325 16V47
TO CAPSTAN MOTOR
P2302 VJS3537A015G
REG12.3V 1
M2 2
FG2 3
M1 4
VH+ 5
H3- 6
GND(FG) 7
H3+ 8
H2- 9
VH- 10
H2+ 11
H1- 12
FG1 13
H1+ 14
M3 15
IC2303
QR2301
QR2302
L2304 100U VLQ0460
C2326 6V47
R2342 1000
R2321 10K
R2323 10K
R2324 220K
IC2304 LM393PS
R2327 10K
D2304 MA153
R2329 47K
IC2305 UPC4556G
C2347 50V2R2(N)
R2331 4700
IC2306 UPC4556G
C2332 1000P
R2332 33K
R2333 3300
C2333 50V2R2
C2337 1000P
R2322 220K
R2325 10K
R2326 10K
C2329 220P
D2305 MA153
R2330 47K
R2328 10K
C2330 220P
C2334 50V2R2(N)
R2334 4700
C2335 1000P
R2335 33K
R2336 3300
C2336 50V2R2
C2338 1000P
C2348 6V220
R2343 1000
= INPUT SIGNAL
= OUTPUT SIGNAL
*=REFER TO THE COMPARISON CHART
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

	D183		D183		D183
C2302	50V4R7(N)	C2345	16V470(SU)	R2304	15(1/4W)
C2303	0.1(V)	C2346	16V470(SU)	R2305	1000
C2304	0.1(V)	D2306	MA4062-M	R2307	27K
C2305	0.1(V)	IC2301	AN3815K	R2308	27K
C2306	0.1(V)	J2301	————	R2309	1200
C2307	0.068(B)	J2302	————	IC2303	MN1280-U
C2308	50V4R7(N)	J2303	————	QR2301	MRN2404
C2309	50V4R7(N)	J2304	————	QR2302	MRN1404
C2310	0.047(B)	J2305	————	D2303	MA151K
C2311	6V47	L2303	————		
C2327	————	R2301	15(1/4W)		
C2331	6V1000(SU)	R2302	0.68(1/2W)		
C2344	16V470(SU)	R2303	15(1/4W)		

6-7. AUDIO MAIN SCHEMATIC DIAGRAM


D182.D184 ONLY
L4001
R4009
IC4002
MUTE OUT1 DET1 IN1 GND IN2 DET2 OUT2 VCC
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
C4002
R4010
R4011
R4012
C4003
C4004
C4005
C4006
C4007
IC4001
METER CH1
METER CH2
TP4006
TP4007
CTP4006
CTP4007
VR4004
VR4005
C4010
R4013
R4014
C4008
C4009
MC1
MC2
TO INTERFACE
METER_CH1 3/6
METER_CH2 3/6
R4001
R4002
CH1OUT
CH2OUT
TO INTERFACE
AUDIO CH1 OUT 3/6
AUDIO CH2 OUT 3/6
D182.D184 ONLY
J4002
J4001
CTL-
CTL+
TO SERVO SYSCON
CTL(-) 1/6
CTL(+) 1/6
TO A/C HEAD
P4004
CTL(+) 6
CTL(-) 5
A.HEAD(W) 4
A.HEAD(R) 3
GND 2
A.E.HEAD 1
COLD
TP4002
VJR0098
HOT
TP4001
VJR0098
CTP4002
CTP4001
R4003 10
PB LEVEL ADJ.
R4004
27K
VR4006
50K(B)
C4001
220P
CTP4008
CTP4009
CTP4010
VR4001
50K(B)
BIAS CUR
P4003 VJP3186A018W
1 AUDIO CH1 OUT
2 GND
3 AUDIO CH2 OUT
4 GND
5 PB SIGNAL
6 PB LEVEL
7 GND
8 A.HEAD(R)
9 A.HEAD(W)
10 BIAS
11 AE
12 FE(1)
13 FE(2)
14 BIAS GND
15 BIAS GND
16
17 REG 12V
18 GND
P4002
1 GND
2 RF OUT
3 A HSW
4 GND
5 REC IN
6 ENVE OUT
7 GND
8
9 GND
10 UNREG 14V
11 GND
12
13 REG 12V
14 REG 12V
15 UNREG -9V
16 GND
17 CH1 HIFI(L)
18 CH2 HIFI(L)
A HSW
REC RF
ENVE OUT
TP4003
TP4004
TP4005
CTP4003
CTP4004
CTP4005
D182.D184 ONLY
P4001 VJP3186A018W
1 FM MUTE(H)
2 A.DUB.P(L)
3 FULL ERASE
4 AUDIO EE(H)
5 NOR REC(L)
6 SP/EP
7 A MODE SEL
8 TAPE SPEED
9
10 MIC IN
11 GND
12 MIC(H)
13 VR COM
14 VR CH2
15 VR CH1
16 AUDIO CH1 IN
17 GND
18 AUDIO CH2 IN
AUDIO PACK
VJB04429(D182,D184)
VJB04435(D183)
LEVEL ADJ.CH1
LEVEL ADJ.CH2
R4007
VR4002
R4008
VR4003
D182.D184 ONLY
FE(1)
FE(2)
TO INTERFACE
FE HEAD(1) 3/6
FE HEAD(2) 3/6
CURE(H)
DFR(L)
TO SYSCON/SERVO
CURR E(H) 1/6
D FM REC(L) 1/6
DFR(L)
CURE(H)
A_HSW
RFOUT
RECIN
TO VIDEO2(C)
D FM REC(L) 5/6
CURR E(H) 5/6
A HSW 5/6
RF OUT 5/6
REC IN 5/6
U14V
SW12V
-9V
CH1
CH2
TO INTERFACE
UNREG 14V 3/6
REG 12V 3/6
UNREG -9V 3/6
CH1_HIFI(L) 3/6
CH2_HIFI(L) 3/6
LJ48
LJ88
A_HSW
MUTE
A_DUB_P
FE
AEE(H)
NOR_REC
SP
MODE_SEL
TAS
TO SYSCON/SERVO
A HSW 1/6
FM MUTE(H) 1/6
A.DUB.P(L) 1/6
FULL ERACE 1/6
AUDIO EE(H) 1/6
NOR REC(L) 1/6
SP/EP 1/6
A MODE SEL 1/6
TAPE SPEED 1/6
MIC_IN
MIC_GND
MIC(H)
VCM
VC2
VC1
TO INTERFACE
MIC IN 3/6
MIC GND 3/6
MIC(H) 3/6
VR COM 3/6
VR CH2 3/6
VR CH1 3/6
CH1IN
CH2IN
AGND
AUDIO CH1 IN 3/6
AUDIO CH2 IN 3/6
AUDIO GND 3/6
=INPUT SIGNAL
=OUTPUT SIGNAL

	D183
C4002	—
C4003	—
C4004	—
C4005	—
C4006	—
C4007	—
C4008	—
C4009	—
C4010	—
IC4001	—
IC4002	—
L4001	—
P4002	—

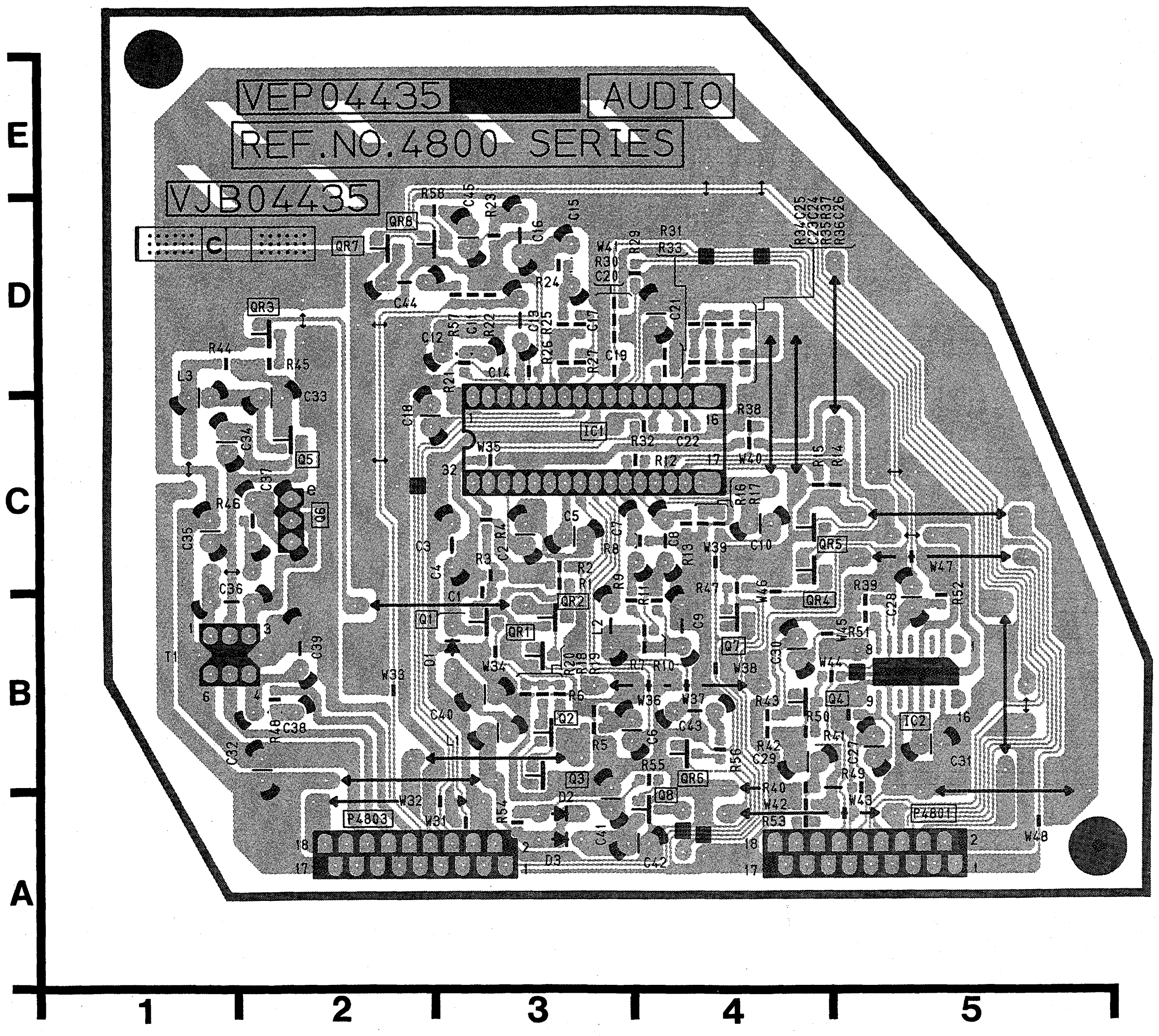
	D183
R4001	0
R4002	—
R4007	—
R4008	—
R4009	—
R4010	—
R4011	—
R4012	—
R4013	—
R4014	—
TP4003	—
TP4004	—
TP4005	—

	D183
TP4006	—
TP4007	—
VR4002	—
VR4003	—
VR4004	—
VR4005	—

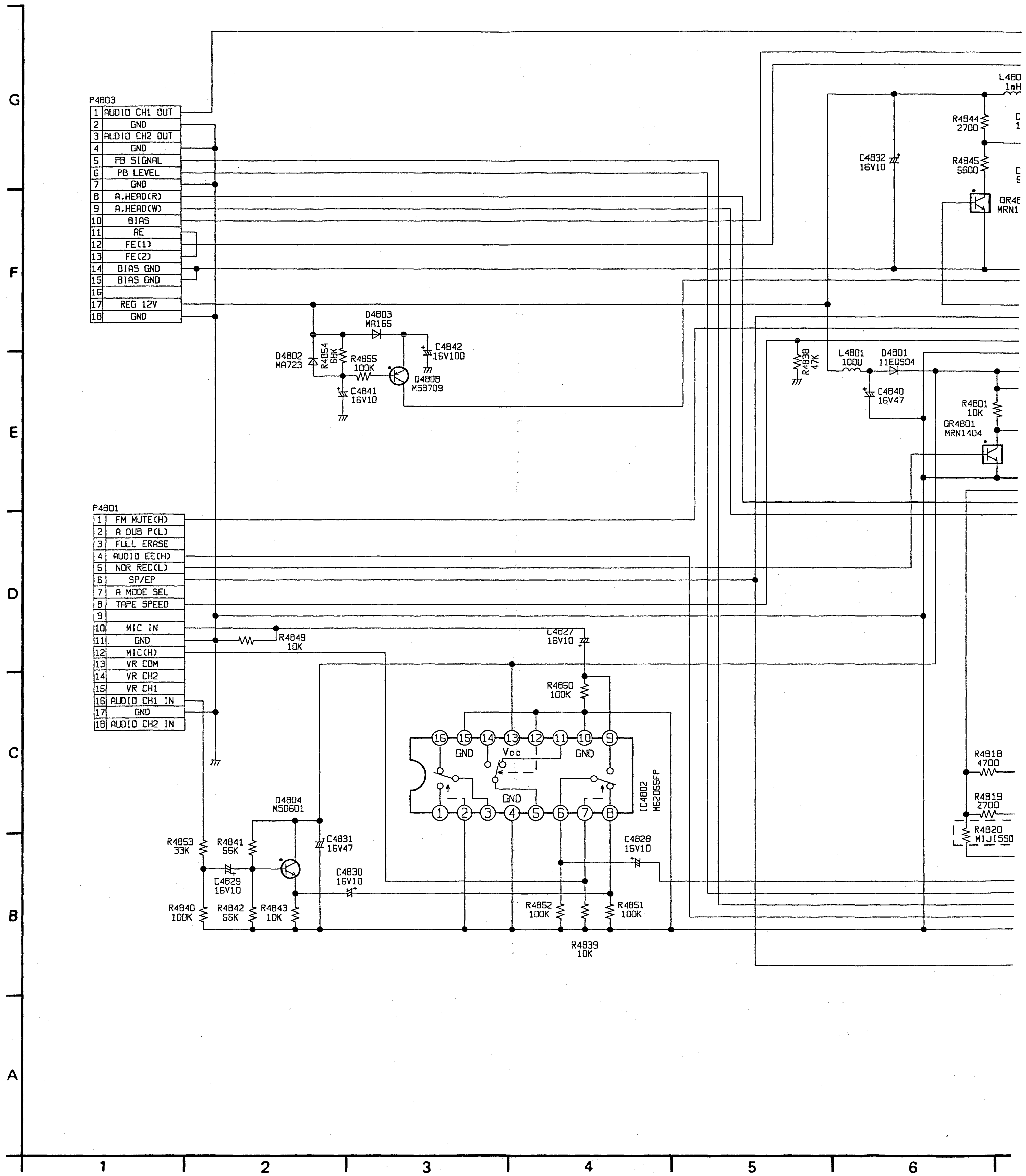
6-8. AUDIO C.B.A. (VEP04435A)

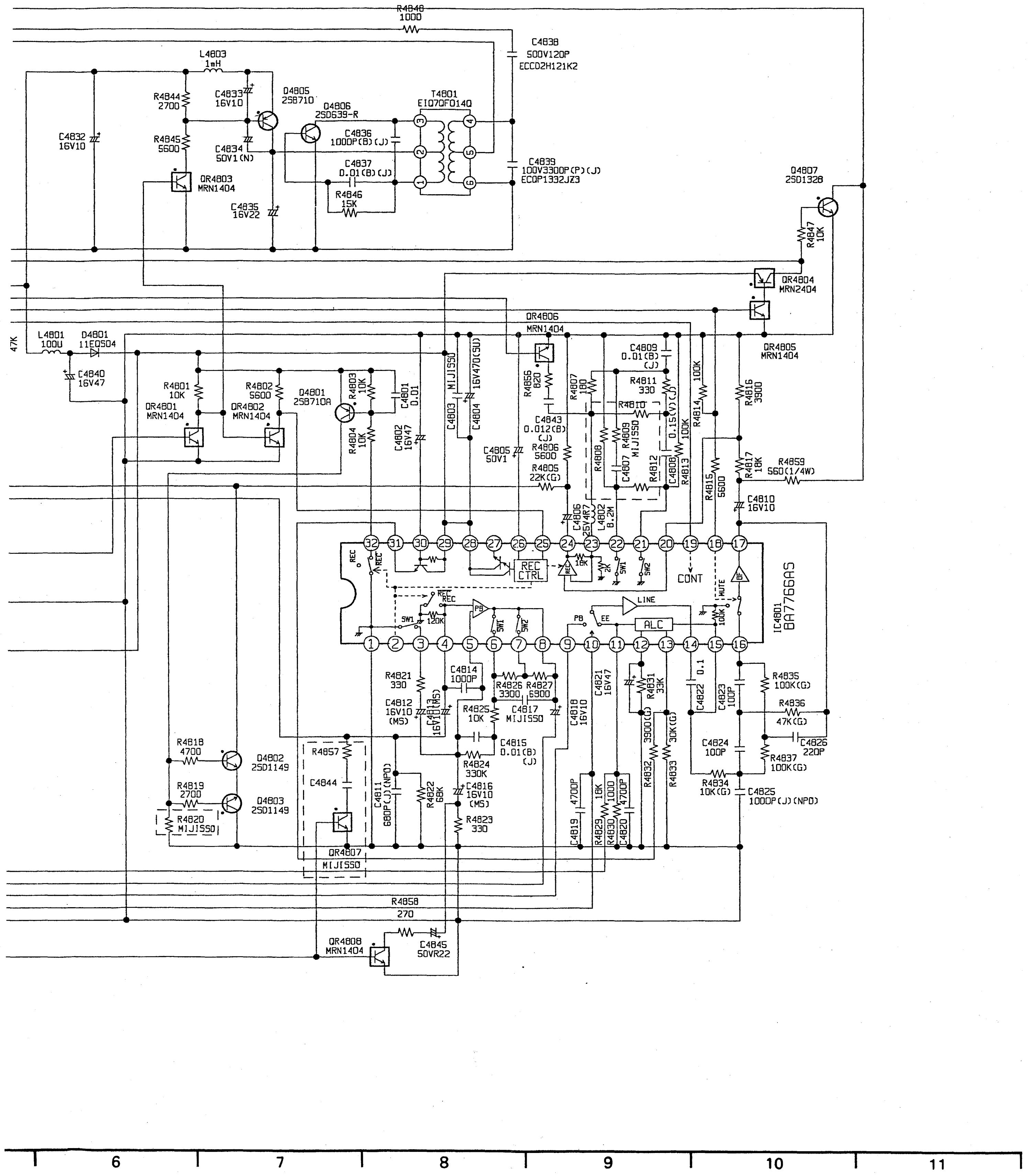
AUDIO			
TRANSISTOR		QR4805	C-4
Q4801	C-3	QR4806	B-4
Q4802	C-3	QR4807	D-2
Q4803	C-3	QR4808	D-2
Q4804	B-4	**INTEGRATED CIRCUITS**	
Q4805	C-2	IC4801	C-3
Q4806	C-2	IC4802	B-5
Q4807	B-4	**CONNECTOR**	
Q4808	A-4	P4801	A-5
TRANSISTOR RESISTOR		P4803	A-2
QR4801	C-3		
QR4802	C-3		
QR4803	D-2		
QR4804	C-4		

ADDRESS INFORMATION

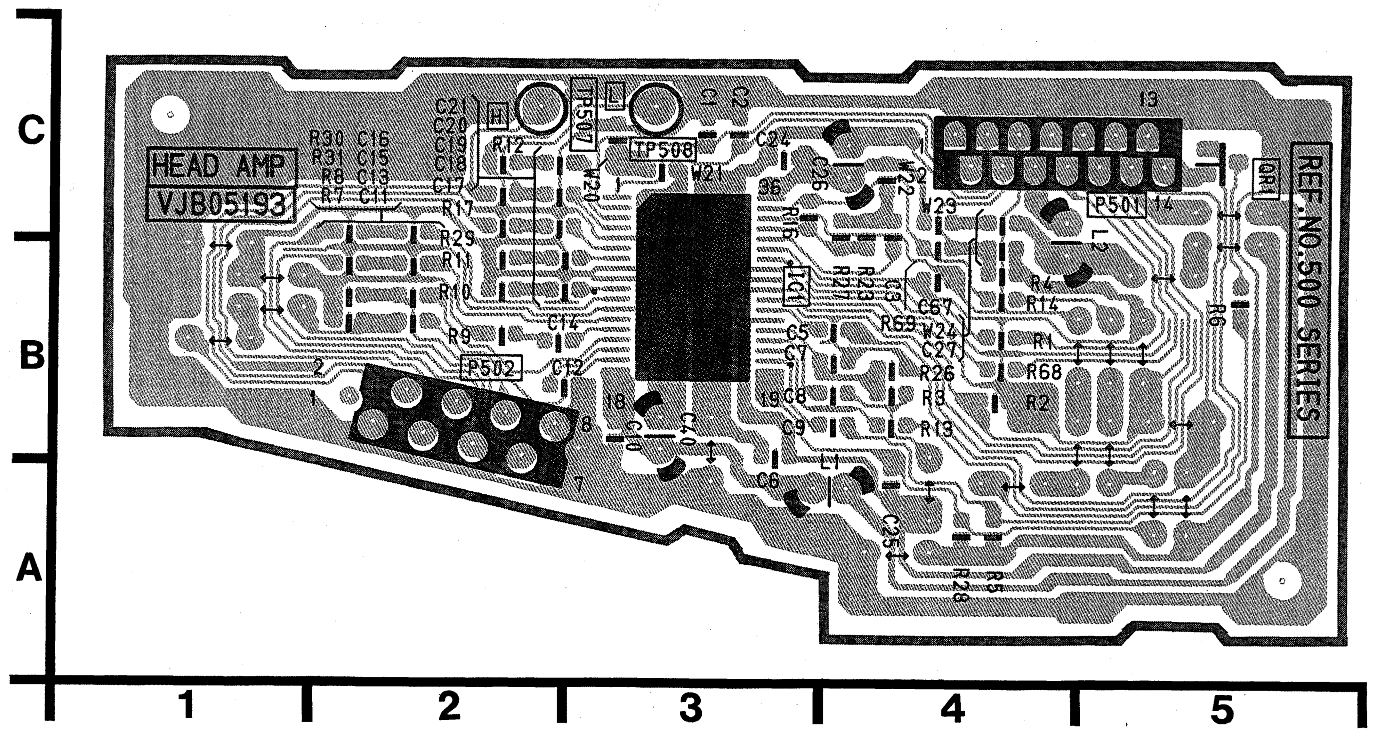

VEP04435
AUDIO
REF.NO.4800 SERIES
VJB04435
E
D
C
B
A
1
2
3
4
5
C
QR6
QR7
QR3
QR1
QR2
QR4
QR5
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
IC1
IC2
QR6
P4803
P4801
T1
L2
L3
R44
R45
R46
R48
R58
R23
R24
R31
R33
R30
R29
R38
R39
R47
R50
R51
R52
R53
C33
C34
C35
C36
C37
C38
C39
C40
C42
C43
C44
C45
C31
C28
C29
C22
C20
C21
C18
C19
C14
C12
C10
C9
C5
C4
C3
C1
D1
D2
D3
W31
W32
W33
W34
W35
W36
W37
W38
W39
W40
W41
W42
W43
W44
W45
W46
W47
W48
16
17
32
18
1
2
17
18

6-9. AUDIO SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
P4803
1 AUDIO CH1 OUT
2 GND
3 AUDIO CH2 OUT
4 GND
5 PB SIGNAL
6 PB LEVEL
7 GND
8 A.HEAD(R)
9 A.HEAD(W)
10 BIAS
11 AE
12 FE(1)
13 FE(2)
14 BIAS GND
15 BIAS GND
16
17 REG 12V
18 GND
P4801
1 FM MUTE(H)
2 A DUB P(L)
3 FULL ERASE
4 AUDIO EE(H)
5 NOR REC(L)
6 SP/EP
7 A MODE SEL
8 TAPE SPEED
9
10 MIC IN
11 GND
12 MIC(H)
13 VR COM
14 VR CH2
15 VR CH1
16 AUDIO CH1 IN
17 GND
18 AUDIO CH2 IN
D4803
MA165
D4802
MA723
R4854
68K
R4855
100K
C4842
16V100
C4841
16V10
Q4808
MS8709
R4849
10K
C4827
16V10
R4850
100K
GND
Vcc
GND
GND
IC4802
M52055FP
Q4804
MSD601
R4853
33K
R4841
56K
C4831
16V47
C4829
16V10
C4830
16V10
R4840
100K
R4842
56K
R4843
10K
C4828
16V10
R4852
100K
R4851
100K
R4839
10K
C4832
16V10
L480
1mH
R4844
2700
R4845
5600
QR4E
MRN1
R4838
47K
L4801
100U
D4801
11EQS04
C4840
16V47
R4801
10K
QR4801
MRN1404
R4818
4700
R4819
2700
R4820
MIJISS0


R4840
1000
C4838
500V120P
ECCO2H121K2
L4803
1mH
R4844
2700
C4833
16V10
Q4805
2SB710
Q4806
2SD639-R
T4801
E1070F0140
C4836
1000P(B)(J)
C4832
16V10
R4845
5600
C4834
50V1(N)
C4837
0.01(B)(J)
C4839
100V3300P(P)(J)
ECQP1332JZ3
QR4803
MRN1404
R4846
15K
C4835
16V22
Q4807
2SD1328
R4847
10K
QR4804
MRN2404
QR4806
MRN1404
L4801
100U
D4801
11EQS04
C4840
16V47
C4809
0.01(B)
(J)
QR4805
MRN1404
R4801
10K
QR4801
MRN1404
R4802
5600
QR4802
MRN1404
Q4801
2SB710A
R4803
10K
C4801
0.01
R4804
10K
C4802
16V47
C4803
MIJ1550
C4804
16V470(SU)
R4856
820
C4843
0.012(B)
(J)
C4805
50V1
R4806
5600
R4805
22K(G)
R4807
180
R4811
330
R4810
R4808
R4809
MIJ1550
C4807
R4812
C4808
R4813
100K
0.15(V)(J)
R4814
100K
R4816
3900
R4817
18K
R4859
560(1/4W)
R4815
5600
C4810
16V10
C4806
25V4R7
L4802
8.2M
REC
REC CTRL
18K
CONT
MUTE
LINE
PB
EE
ALC
SW1
120K
IC4801
BA7766AS
R4821
330
C4814
1000P
R4826
3300
R4827
6900
C4812
16V10
(MS)
C4813
16V1
R4825
10K
C4817
MIJ1550
C4818
16V10
C4821
16V47
R4831
33K
C4822
0.1
C4823
100P
R4835
100K(G)
R4836
47K(G)
C4826
220P
R4818
4700
Q4802
2SD1149
R4819
2700
Q4803
2SD1149
R4820
MIJ1550
R4857
C4844
QR4807
MIJ1550
C4811
680P(J)(NPO)
R4822
68K
C4815
0.01(B)
(J)
R4824
330K
C4816
16V10
(MS)
R4823
330
C4819
4700P
R4829
18K
R4830
1000
C4820
4700P
R4832
3900(G)
R4833
30K(G)
C4824
100P
R4834
10K(G)
R4837
100K(G)
C4825
1000P(J)(NPO)
R4858
270
QR4808
MRN1404
C4845
50VR22
47K
6
7
8
9
10
11

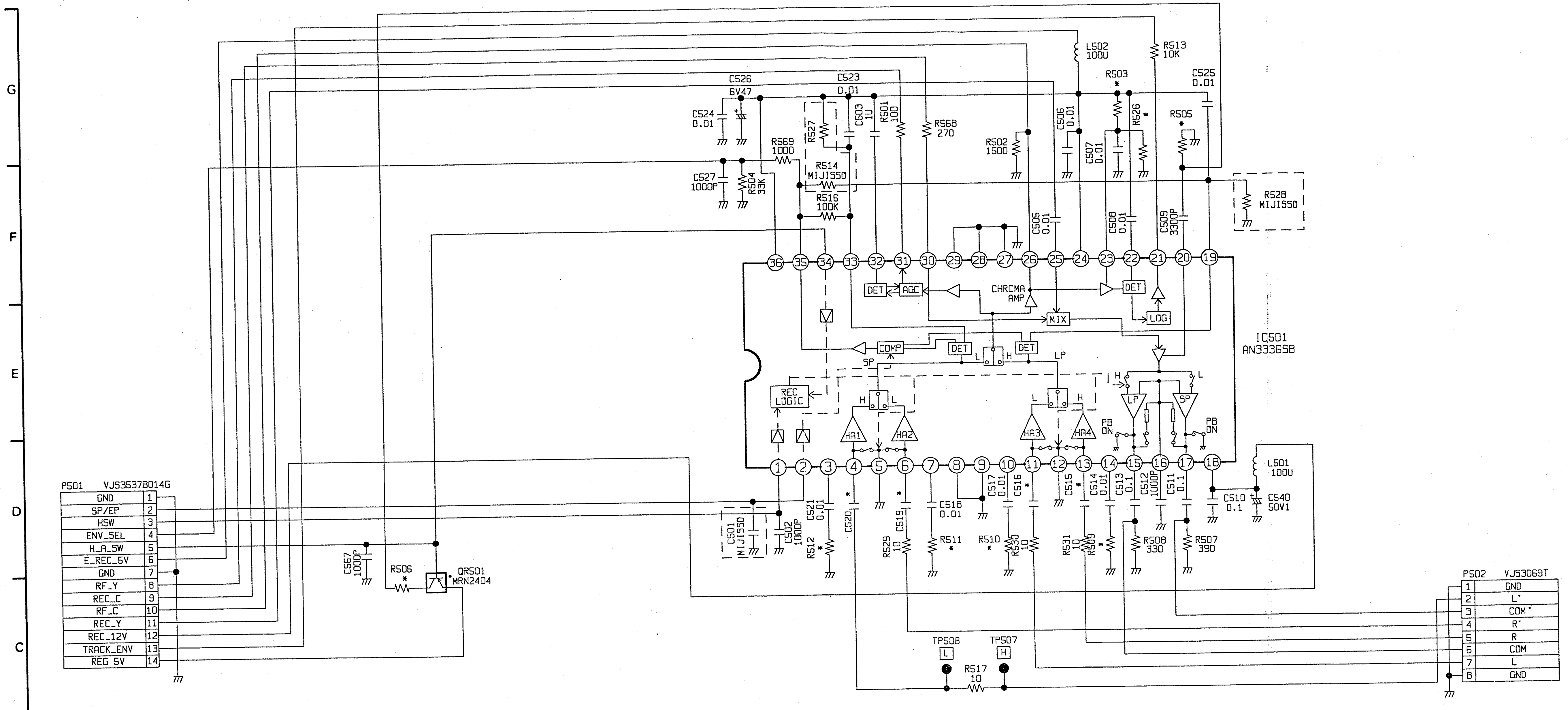
6-10. HEAD AMP PACK C.B.A. (VEP05193A)


C
B
A
1
2
3
4
5
HEAD AMP
VJB05193
REF.NO.500 SERIES
TP507
TP508
P501
P502
IC1
QR1
R30
R31
R8
R7
C16
C15
C13
C11
C21
C20
C19
C18
C17
R12
R17
R29
R11
R10
R9
C14
C12
C1
C2
C24
W20
W21
W22
W23
W24
C26
R16
R27
R28
C3
R69
C67
C27
R26
R3
R13
R4
R14
R1
R68
R2
R6
C5
C7
C8
C9
C6
L1
L2
C10
C40
C25
R5
13
14
36
18
19
1
2
7
8

HEAD AMP PACK	
TRANSISTOR RESISTOR	
QR501	C-5
INTEGRATED CIRCUITS	
IC501	B-3
TEST POINT	
TP507 TP508	C-2 C-3
CONNECTOR	
P501 P502	C-4 B-2

ADDRESS INFORMATION

6-11. HEAD AMP PACK SCHEMATIC DIAGRAM

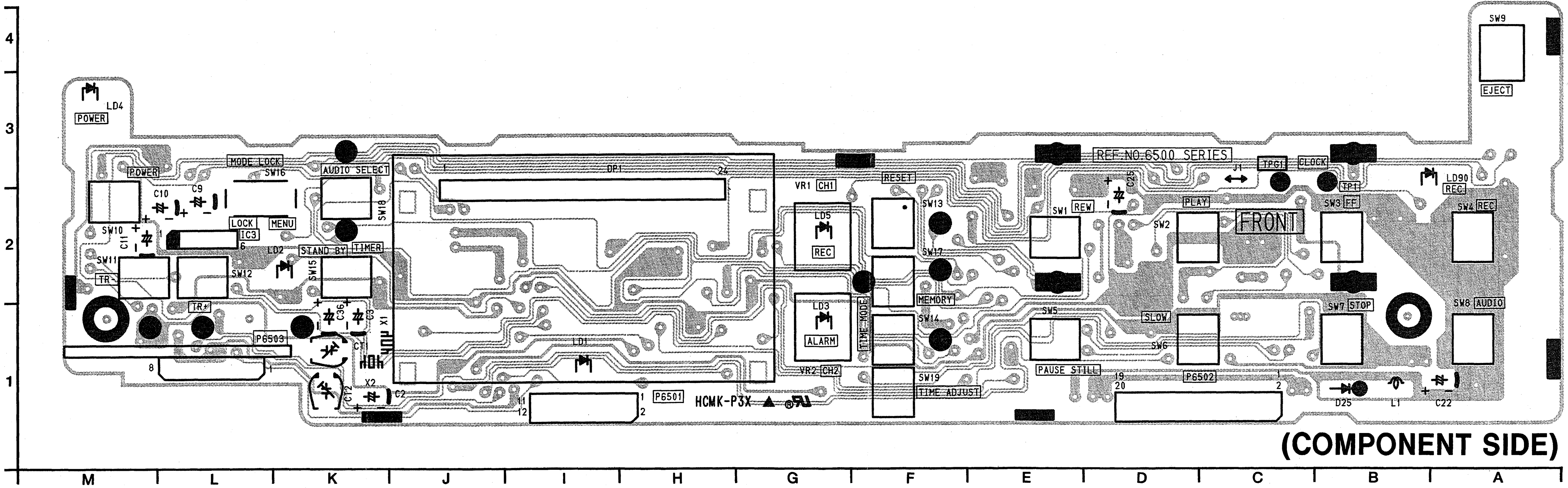


G
F
E
D
C
PS01 VJS3537B014G
GND 1
SP/EP 2
HSW 3
ENV_SEL 4
H_A_SW 5
E_REC_5V 6
GND 7
RF_Y 8
REC_C 9
RF_C 10
REC_Y 11
REC_12V 12
TRACK_ENV 13
REG 5V 14
C567 1000P
R506 *
QR501 MRN2404
C526 6V47
C523 0.01
C524 0.01
R527
C503 1U
R501 100
R568 270
R569 1000
R514 MIJISSO
R516 100K
C527 1000P
R504 33K
R502 1500
C506 0.01
C507 0.01
L502 100U
R503 *
R526 *
R513 10K
C525 0.01
R505 *
R528 MIJISSO
C505 0.01
C508 0.01
C509 3300P
DET
AGC
CHRCMA AMP
MIX
LOG
COMP
REC LOGIC
SP
LP
H
L
HA1
HA2
HA3
HA4
PB ON
IC501 AN3336SB
C501 MIJISSO
C502 1000P
R512 *
C521 0.01
C520 *
C519 *
R529 10
C518 0.01
R511 *
R510 *
C517 0.01
R530 10
C516 *
C515 *
R531 10
R509 *
C514 0.01
C513 0.1
C512 1000P
C511 0.1
R508 330
R507 390
C510 0.1
L501 100U
C540 50V1
TP508 L
TP507 H
R517 10
PS02 VJS3069T
1 GND
2 L'
3 COM'
4 R'
5 R
6 COM
7 L
8 GND

*=REFER TO THE COMPARISON CHART

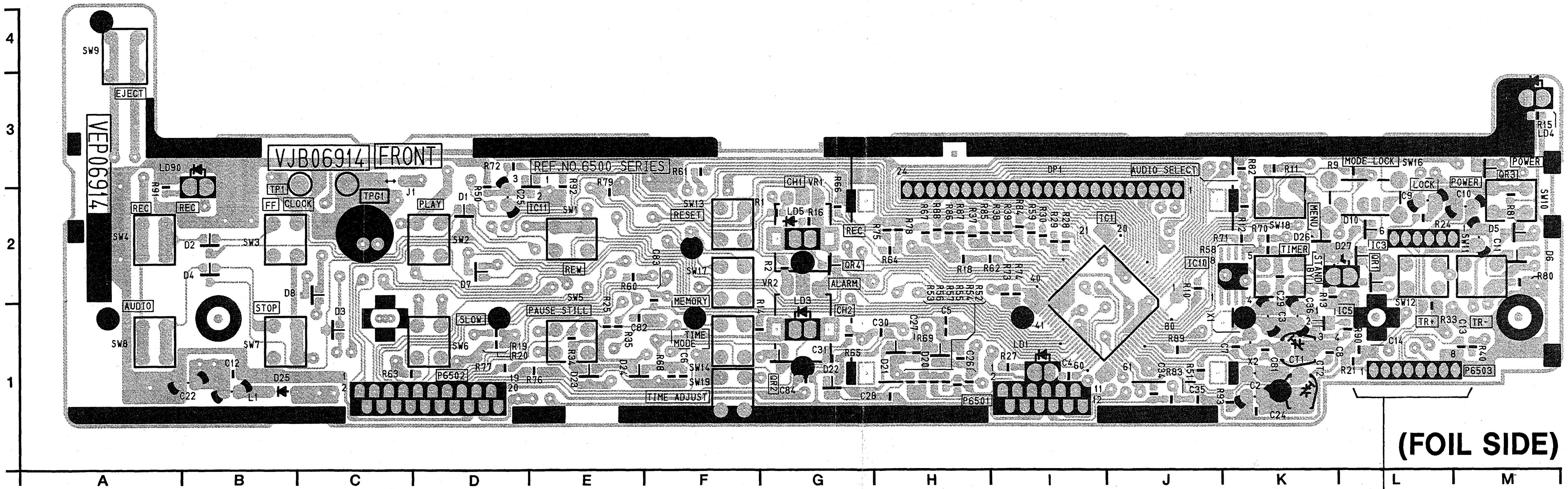
	NTSC	PAL
C515	0.33	0.1
C516	0.33	0.1
C519	0.33	0.1
C520	0.33	0.1
R503	10K(G)	7500(G)
R505	2200	1800
R506	7500(G)	3900
R509	100	47
R510	100	47
R511	100	47
R512	100	47
R526	12K(G)	13K(G)

6-12. FRONT C.B.A. (VEP06914C)



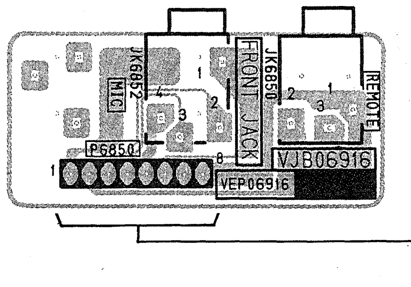
SW9
EJECT
LD4
POWER
MODE LOCK
SW16
AUDIO SELECT
DP1
VR1
CH1
RESET
REF.NO.6500 SERIES
TPG1
CLOCK
TP1
LD90
REC
SW10
LOCK
MENU
IC3
LD2
STAND BY
TIMER
SW11
TR-
SW12
SW15
SW18
LD5
REC
SW13
SW17
SW1
REW
SW2
PLAY
FRONT
SW3
FF
SW4
REC
LD3
ALARM
TIME MODE
MEMORY
SW14
SW5
SLOW
SW6
SW7
STOP
SW8
AUDIO
TR+
P6503
C36
CT1
X1
LD1
VR2
CH2
SW19
TIME ADJUST
PAUSE STILL
P6502
D25
L1
C22
X2
C12
C2
P6501
HCMK-P3X
1
2
3
4
M
L
K
J
I
H
G
F
E
D
C
B
A

(COMPONENT SIDE)



SW9
EJECT
VEP06914
VJB06914
FRONT
REF.NO.6500 SERIES
LD90
REC
TP1
CLOCK
TPG1
PLAY
J1
IC11
SW1
RESET
SW13
CH1
VR1
LD5
REC
DP1
AUDIO SELECT
IC1
MODE LOCK
SW16
POWER
QR3
SW10
SW4
SW3
SW2
REW
SW17
QR4
ALARM
IC10
TIMER
IC3
QR1
AUDIO
STOP
SLOW
PAUSE STILL
MEMORY
TIME MODE
LD3
CH2
IC5
SW12
TR+
TR-
SW8
SW7
SW6
P6502
SW14
SW19
TIME ADJUST
QR2
P6501
LD1
CT1
P6503
D25
L1
C22
C12
1
2
3
4
A
B
C
D
E
F
G
H
I
J
K
L
M

(FOIL SIDE)



JK6852
MIC
JK6850
FRONT JACK
REMOTE
P6850
VEP06916
VJB06916

FRONT JACK (VEP06916C)

6-13. FRONT & FRONT JACK SCHEMATIC DIAGRAM

FRONT(VEP06914E)			
COMPONENT SIDE		**FOIL SIDE**	
INTEGRATED CIRCUITS		**TRANSISTOR RESISTOR**	
IC6503	L-2	QR6503	M-3
TESTPOINT		QR6504	G-2
TP6501	C-3	**INTEGRATED CIRCUITS**	
TPG6501	C-3	IC6501	I-2
CONNECTOR		IC6505	K-1
P6501	I-1	IC6510	J-2
P6502	D-1		
P6503	L-1		
ADJUSTMENT			
VR6501	G-2		
VR6502	G-1		
SWITCH			
SW6501	E-2		
SW6502	D-2		
SW6503	B-2		
SW6504	A-2		
SW6505	E-1		
SW6506	D-1		
SW6507	B-1		
SW6508	A-1		
SW6509	A-4		
SW6510	M-2		
SW6511	M-2		
SW6513	F-2		
SW6514	F-1		
SW6516	L-3		
SW6517	F-2		
SW6518	K-2		

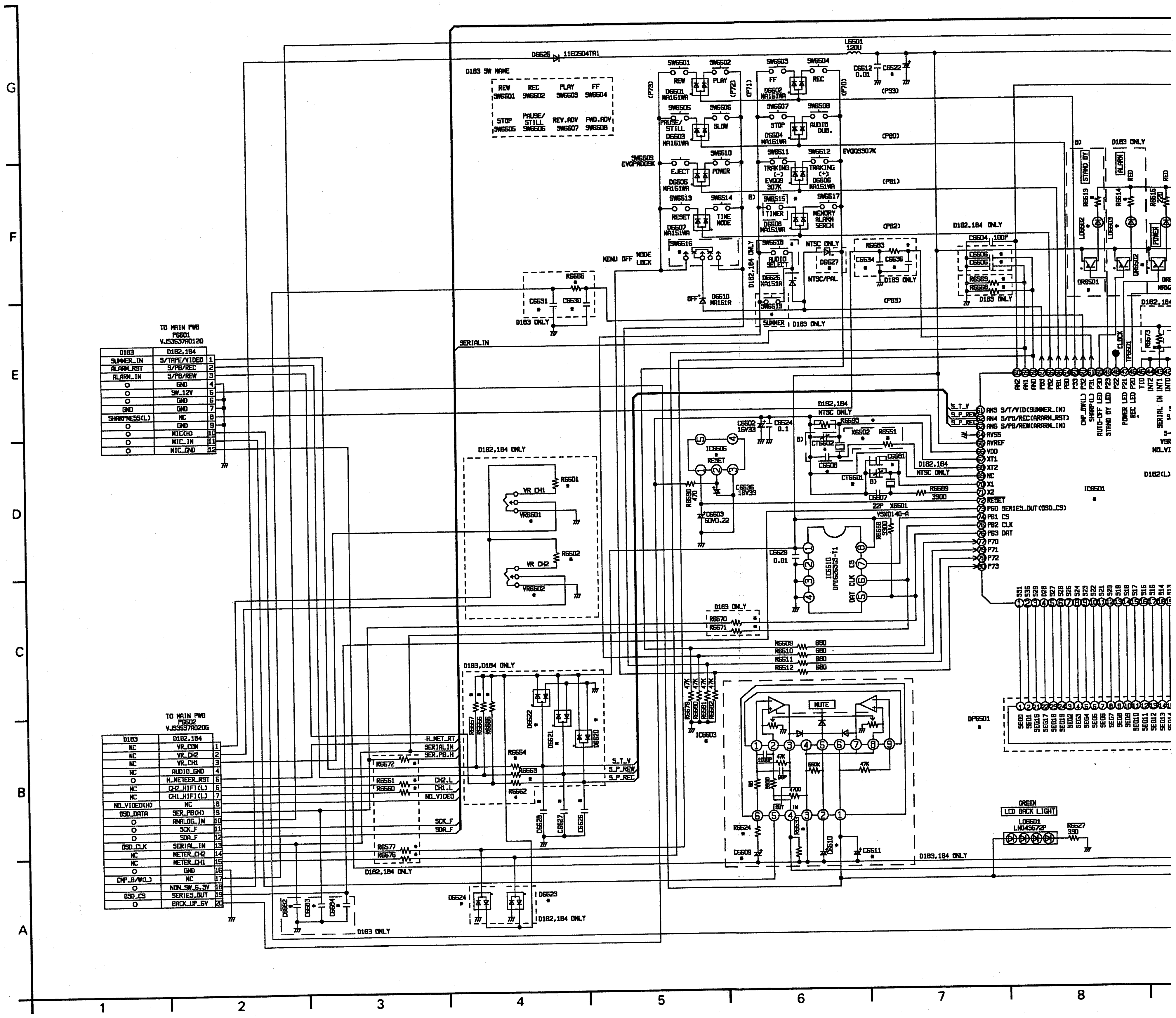
ADDRESS INFORMATION

	D183-T	D183-P	D183-E
C6505	—	—	—
C6506	—	—	—
C6508	39P	39P	39P
C6522	10V33	10V33	10V33
C6525	—	—	—
C6530	270P	270P	270P
C6531	270P	270P	270P
C6534	270P	270P	270P
C6535	270P	270P	270P
C6581	—	—	—
CT6501	30P	30P	30P
CT6502	30P	30P	30P
D6523	—	—	—
D6524	—	—	—
D6527	MA151A	MA151A	—
DP6501	ED0063Y78A4P	ED0063Y78A4P	ED0063Y78A4P
IC6501	UPD75336C100	UPD75336C100	UPD75336C079
IC6511	MN1382-RTW	MN1382-RTW	MN1382-RTW
LD6502	LN81RCPHL	LN81RCPHL	LN81RCPHL
LD6503	LN81RCPHL	LN81RCPHL	LN81RCPHL
LD6505	LN81RCPHL	LN81RCPHL	LN81RCPHL
LD6590	—	—	—
QR6501	MRN2402TE85R	MRN2402TE85R	MRN2402TE85R
QR6502	MRN2402TE85R	MRN2402TE85R	MRN2402TE85R
R6501	—	—	—

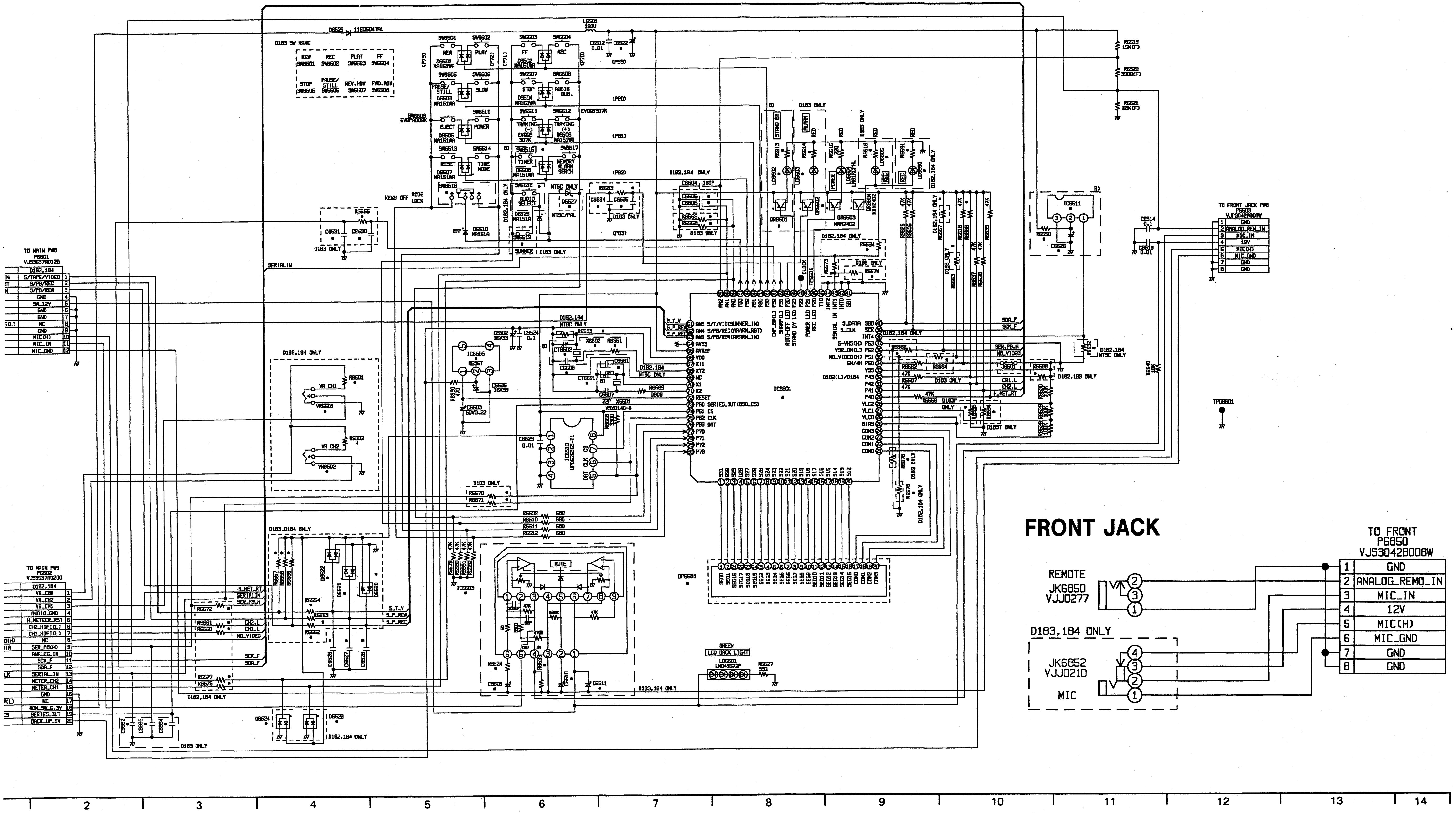
	D183-T	D183-P	D183-E
R6502	—	—	—
R6513	220	220	220
R6514	220	220	220
R6516	220	220	220
R6534	—	—	—
R6550	470	470	470
R6551	220K	220K	220K
R6555	10K	10K	10K
R6556	10K	10K	10K
R6557	10K	10K	10K
R6560	—	—	—
R6561	—	—	—
R6563	47K	47K	47K
R6564	47K	47K	47K
R6565	470	470	470
R6566	—	—	—
R6567	—	—	—
R6568	0	0	0
R6569	0	0	0
R6570	0	0	0
R6571	0	0	0
R6572	—	—	—
R6573	—	—	—
R6574	0	0	0
R6586	1000	1000	1000

	D183-T	D183-P	D183-E
IC6505	MN1382-HTX	MN1382-HTX	MN1382-HTX
R6575	0	0	0
R6576	—	—	—
R6577	—	—	—
R6578	—	—	—
R6583	470	470	470
R6584	0	—	—
R6585	—	0	—
R6588	0	0	0
R6591	—	—	—
R6592	—	—	—
R6593	—	—	—
SW6515	EVQQS307K	EVQQS307K	EVQQS307K
SW6516	VSS0249	VSS0249	VSS0249
SW6518	—	—	—
SW6519	EVQQS307K	EVQQS307K	EVQQS307K
VR6501	—	—	—
VR6502	—	—	—
X6502	VSX0094-C	VSX0094-C	VSX0094-C
R6524	82	82	82
R6533	680	680	680
C6509	16V33	16V33	16V33
C6510	50V3R3	50V3R3	50V3R3
C6511	16V33	16V33	16V33
IC6503	VCR0172	VCR0172	VCR0172

	D183-T	D183-P	D183-E
C6582	1000P	1000P	1000P
C6583	1000P	1000P	1000P
C6584	1000P	1000P	1000P
C6526	100P	100P	100P
C6527	100P	100P	100P
C6528	100P	100P	100P
D6520	MA153-TW	MA153-TW	MA153-TW
D6521	MA153-TW	MA153-TW	MA153-TW
D6522	MA153-TW	MA153-TW	MA153-TW
R6552	10K	10K	10K
R6553	10K	10K	10K
R6554	10K	10K	10K


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
D183 SW NAME
REW
REC
PLAY
FF
STOP
PAUSE/STILL
REV.ADV
FWD.ADV
SW6501
SW6502
SW6503
SW6504
SW6505
SW6506
SW6507
SW6508
SW6509
SW6510
SW6511
SW6512
SW6513
SW6514
SW6515
SW6516
SW6517
SW6518
SW6519
EJECT
POWER
SLOW
AUDIO DUB.
TRAKING (-)
TRAKING (+)
RESET
TIME MODE
TIMER
MEMORY ALARM SERCH
MENU OFF
MODE LOCK
AUDIO SELECT
NTSC/PAL
D6525 11ED504TA1
L6501 120U
SERIAL IN
TO MAIN PWB P6501 VJS3637A012G
D183
D182,184
SUMMER_IN
S/TAPE/VIDEO
ALARM_RST
S/PB/REC
ALARM_IN
S/PB/REW
GND
SW_12V
SHARPNESS(L)
NC
MIC_CHO
MIC_IN
MIC_GND
D182,184 ONLY
VR CH1
VR6501
VR CH2
VR6502
R6501
R6502
IC6505
RESET
IC6510
UPD6253G-T1
X6502
CT6501
IC6501
D183 ONLY
NTSC ONLY
D183,D184 ONLY
TO MAIN PWB P6502 VJS3537A020G
VR_COM
VR_CH2
VR_CH1
AUDIO_GND
H_METEER_RST
CH2_HIFI(L)
CH1_HIFI(L)
NO_VIDEO(H)
OSD_DATA
SER_PB(H)
ANALOG_IN
SCK_F
SDA_F
OSD_CLK
SERIAL_IN
METER_CH2
METER_CH1
CMP_B/W(L)
NON_SW_6.3V
OSD_CS
SERIES_OUT
BACK_UP_5V
MUTE
IC6503
DP6501
GREEN
LCD BACK LIGHT
LD6501
LND43672P
R6527
330
D182,184 ONLY
D183 ONLY
STAND BY
ALARM
POWER
LD6502
LD6503
LD6505
CLOCK
AN3 S/T/VID(SUMMER_IN)
AN4 S/PB/REC(ARARM_RST)
AN5 S/PB/REW(ARARM_IN)
AVSS
AVREF
VDD
XT1
XT2
NC
X1
X2
RESET
P60 SERIES_OUT(OSD_CS)
P61 CS
P62 CLK
P63 DAT
P70
P71
P72
P73

& FRONT JACK SCHEMATIC DIAGRAM

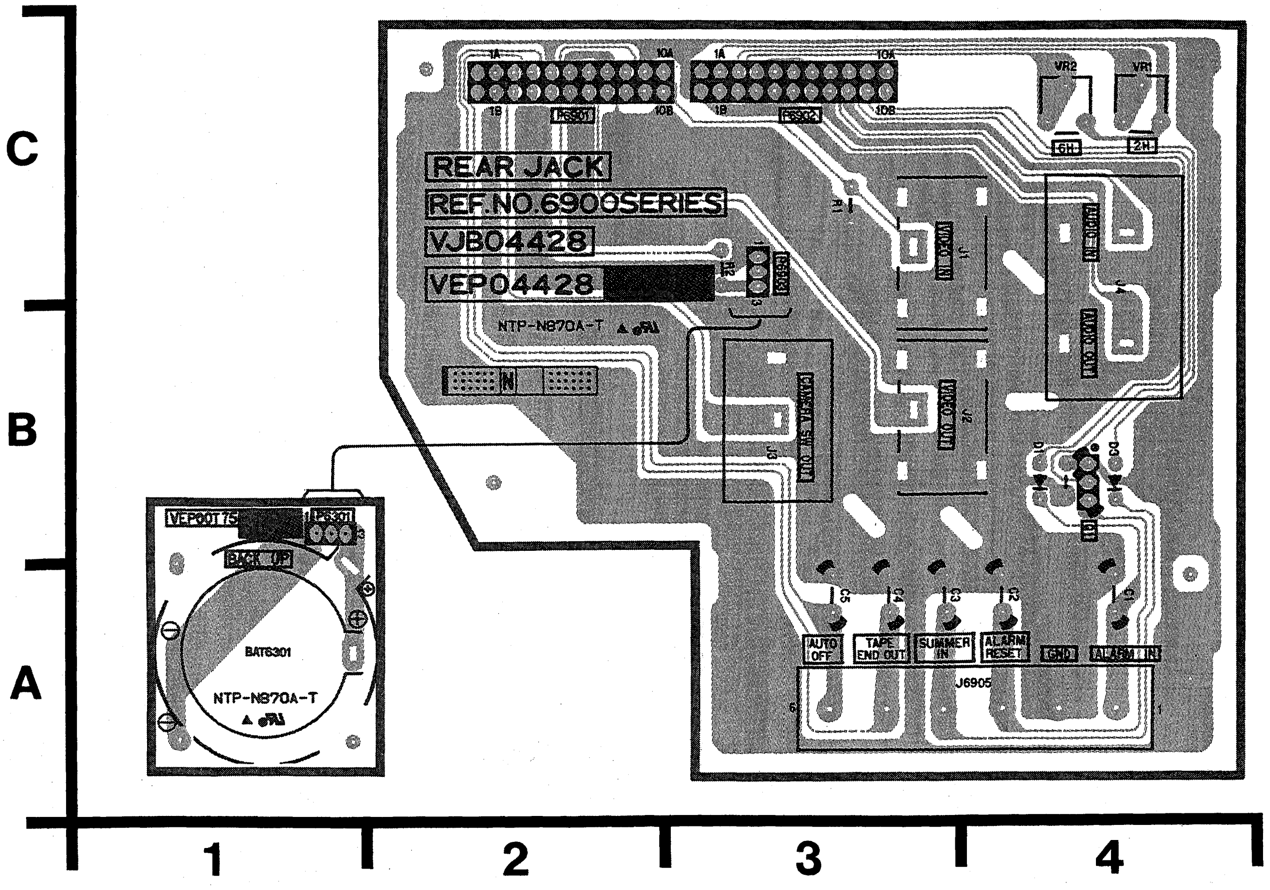


D183 SW NAME
REW SW6601
REC SW6602
PLAY SW6603
FF SW6604
STOP SW6605
PAUSE/STILL SW6606
REV.ADV SW6607
FWD.ADV SW6608
IC6601
IC6610
UPD6253G-T1
IC6611
IC6606
IC6603
MUTE
TO MAIN PWB
P6501
VJS3637A012G
D182,184
S/TAPE/VIDEO
S/PB/REC
S/PB/REW
GND
SW_12V
GND
GND
NC
GND
MIC(H)
MIC_IN
MIC_GND
TO MAIN PWB
P6502
VJS3637A020G
VR_COM
VR_CH2
VR_CH1
AUDIO_GND
H_METEER_RST
CH2_HIFI(L)
CH1_HIFI(L)
NC
SER_PB(H)
ANALOG_IN
SCK_F
SDA_F
SERIAL_IN
METER_CH2
METER_CH1
GND
NC
NON_SW_5.3V
SERIES_OUT
BACK_UP_5V
TO FRONT JACK PWB
P6603
VJP3042A008W
GND
ANALOG_REM_IN
MIC_IN
12V
MIC(H)
MIC_GND
GND
GND
D183 ONLY
D182,184 ONLY
D183,D184 ONLY
NTSC ONLY
LCD BACK LIGHT
LD6501
LN04S72P
GREEN
DP6501
TPG6601
FRONT JACK
REMOTE
JK6850
VJJ0277
D183,184 ONLY
JK6852
VJJ0210
MIC
TO FRONT
P6850
VJS3042B008W
1 GND
2 ANALOG_REMO_IN
3 MIC_IN
4 12V
5 MIC(H)
6 MIC_GND
7 GND
8 GND
2
3
4
5
6
7
8
9
10
11
12
13
14

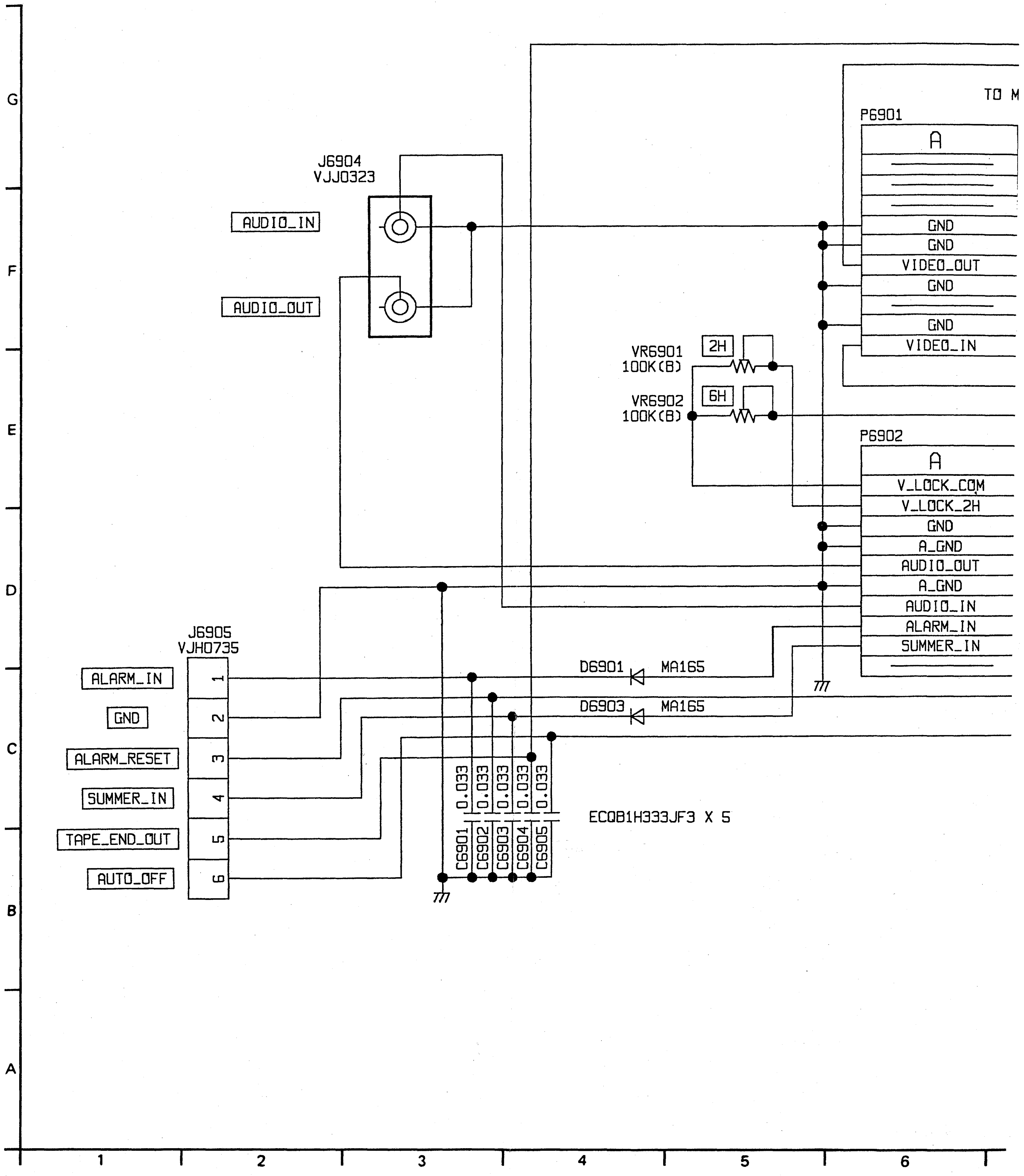
6-14. REAR JACK C.B.A. (VEP04428A)

REAR JACK PACK	
TRANSISTOR	
Q6901	B-4
ADJUSTMENT	
VR6901	C-4
VR6902	C-4
CONNECTOR	
P6301	B-1
P6901	C-2
P6902	C-3
P6903	C-3

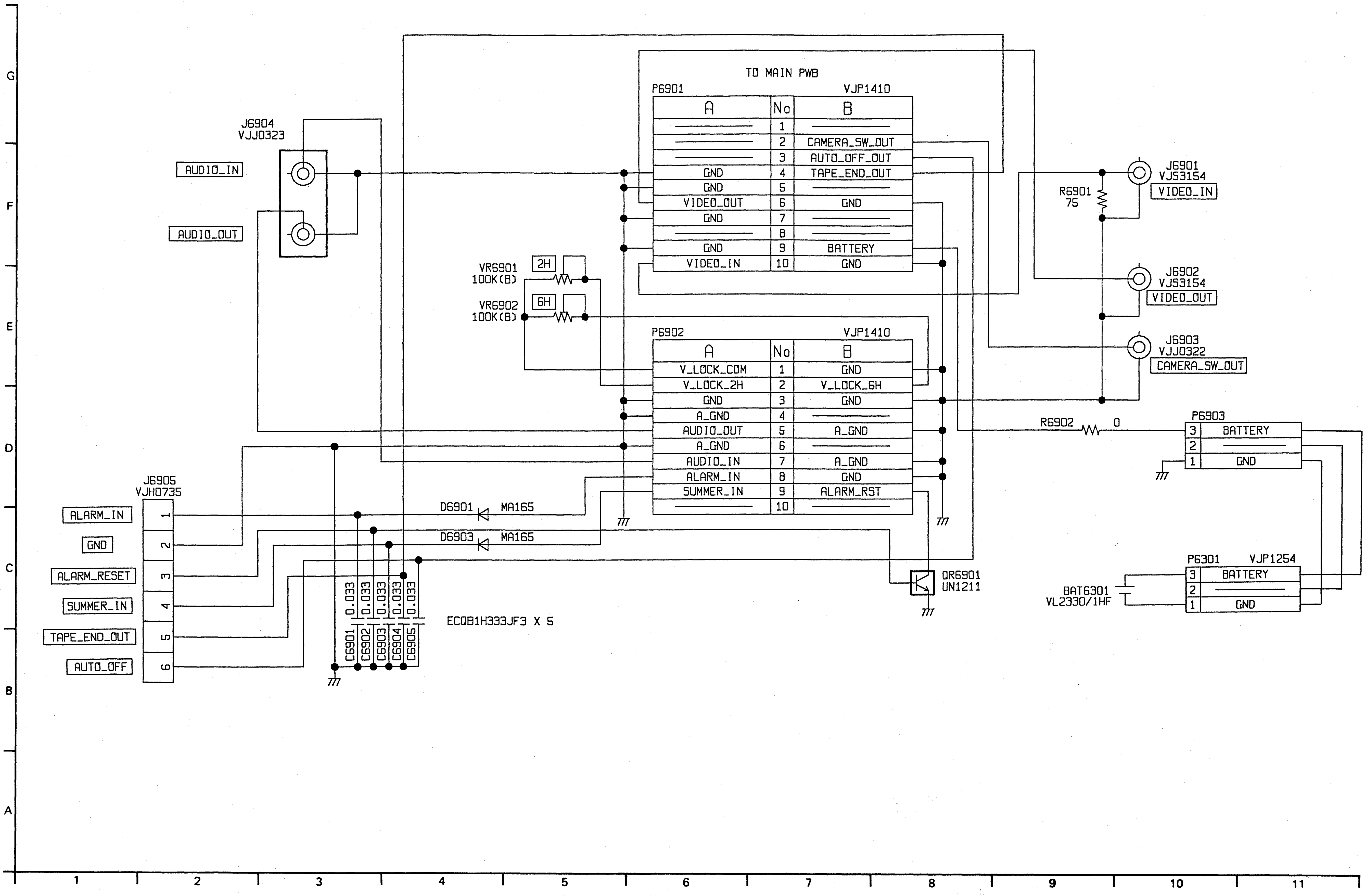
ADDRESS INFORMATION


C
B
A
1
2
3
4
REAR JACK
REF.NO.6900SERIES
VJB04428
VEP04428
NTP-N870A-T
P6901
P6902
VR2
VR1
6H
2H
J1
J2
J3
J4
VEP00175
P6301
BACK UP
BAT6301
NTP-N870A-T
AUTO OFF
TAPE END OUT
SUMMER IN
ALARM RESET
GND
ALARM IN
J6905

6-15. REAR JACK SCHEMATIC DIAGRAM

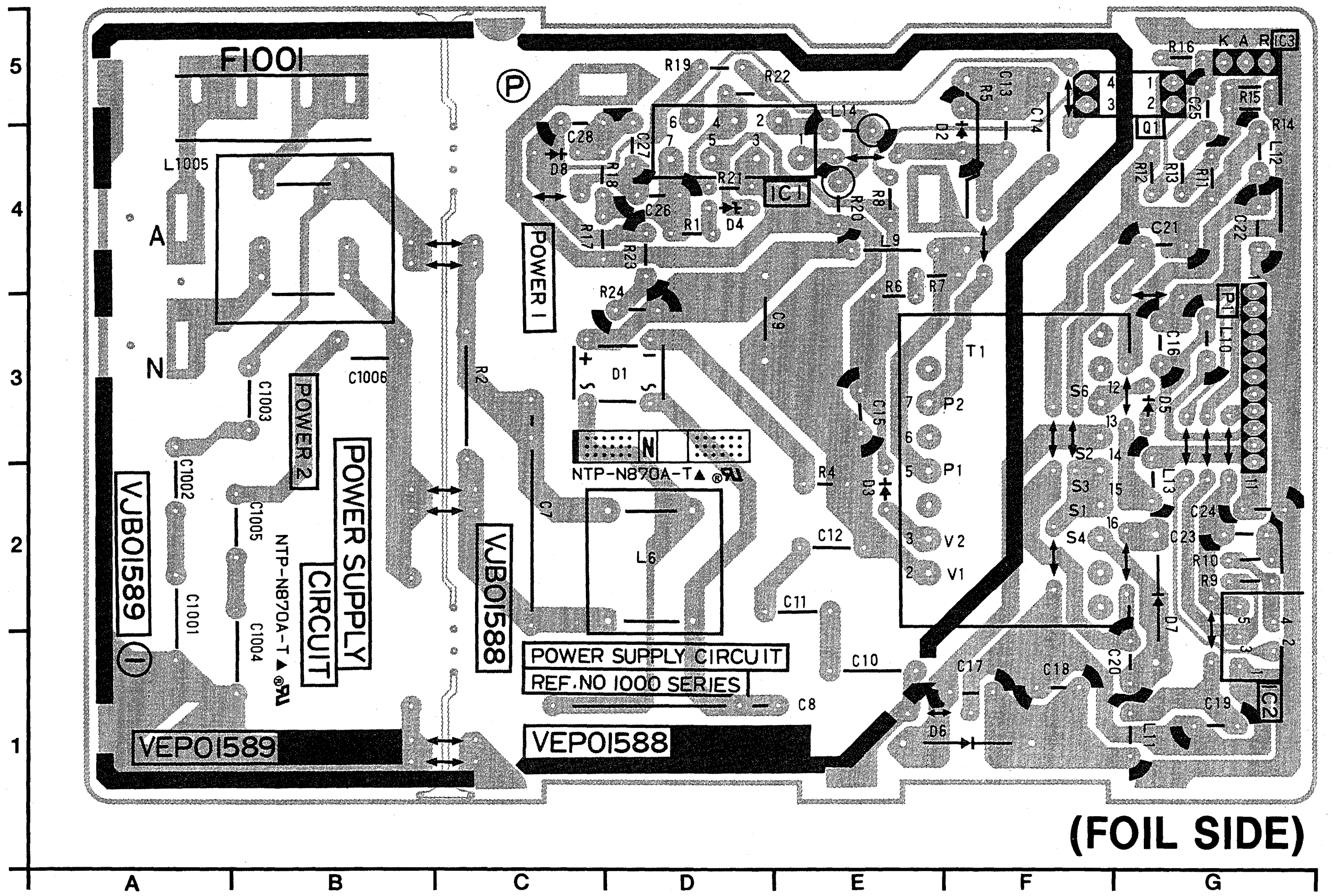

G
F
E
D
C
B
A
1
2
3
4
5
6
TO M
P6901
A
GND
GND
VIDEO_OUT
GND
GND
VIDEO_IN
J6904
VJJ0323
AUDIO_IN
AUDIO_OUT
VR6901
100K(B)
2H
VR6902
100K(B)
6H
P6902
A
V_LOCK_COM
V_LOCK_2H
GND
A_GND
AUDIO_OUT
A_GND
AUDIO_IN
ALARM_IN
SUMMER_IN
J6905
VJH0735
ALARM_IN
GND
ALARM_RESET
SUMMER_IN
TAPE_END_OUT
AUTO_OFF
1
2
3
4
5
6
D6901
MA165
D6903
MA165
C6901
C6902
C6903
C6904
C6905
0.033
0.033
0.033
0.033
0.033
ECQB1H333JF3 X 5

6-15. REAR JACK SCHEMATIC DIAGRAM



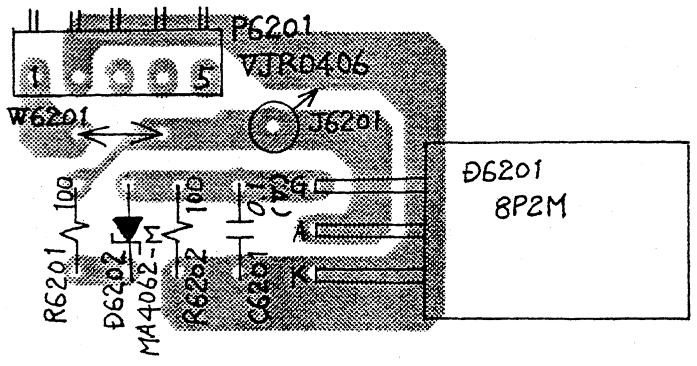
TO MAIN PWB
P6901
VJP1410
A
No
B
1
2 CAMERA_SW_OUT
3 AUTO_OFF_OUT
GND 4 TAPE_END_OUT
GND 5
VIDEO_OUT 6 GND
GND 7
8
GND 9 BATTERY
VIDEO_IN 10 GND
P6902
VJP1410
V_LOCK_COM 1 GND
V_LOCK_2H 2 V_LOCK_6H
GND 3 GND
A_GND 4
AUDIO_OUT 5 A_GND
A_GND 6
AUDIO_IN 7 A_GND
ALARM_IN 8 GND
SUMMER_IN 9 ALARM_RST
10
J6904
VJJ0323
AUDIO_IN
AUDIO_OUT
VR6901
100K(B)
2H
VR6902
100K(B)
6H
J6901
VJS3154
VIDEO_IN
R6901
75
J6902
VJS3154
VIDEO_OUT
J6903
VJJ0322
CAMERA_SW_OUT
R6902
0
P6903
3 BATTERY
2
1 GND
P6301
VJP1254
3 BATTERY
2
1 GND
BAT6301
VL2330/1HF
QR6901
UN1211
J6905
VJH0735
ALARM_IN 1
GND 2
ALARM_RESET 3
SUMMER_IN 4
TAPE_END_OUT 5
AUTO_OFF 6
D6901
MA165
D6903
MA165
C6901 0.033
C6902 0.033
C6903 0.033
C6904 0.033
C6905 0.033
ECQB1H333JF3 X 5
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

6-16. POWER 1 C.B.A. (VEP01588A)
POWER 2 C.B.A. (VEP01589B)



F1001
L1005
A
N
VJB01589
VJB01588
POWER 2
POWER SUPPLY CIRCUIT
NTP-N870A-T
POWER 1
NTP-N870A-T
POWER SUPPLY CIRCUIT
REF.NO 1000 SERIES
VEP01589
VEP01588
IC1
IC2
IC3
Q1
P1
T1
L6
D1
(FOIL SIDE)
5
4
3
2
1
A
B
C
D
E
F
G

POWER SUB C.B.A. (VEP06974A)

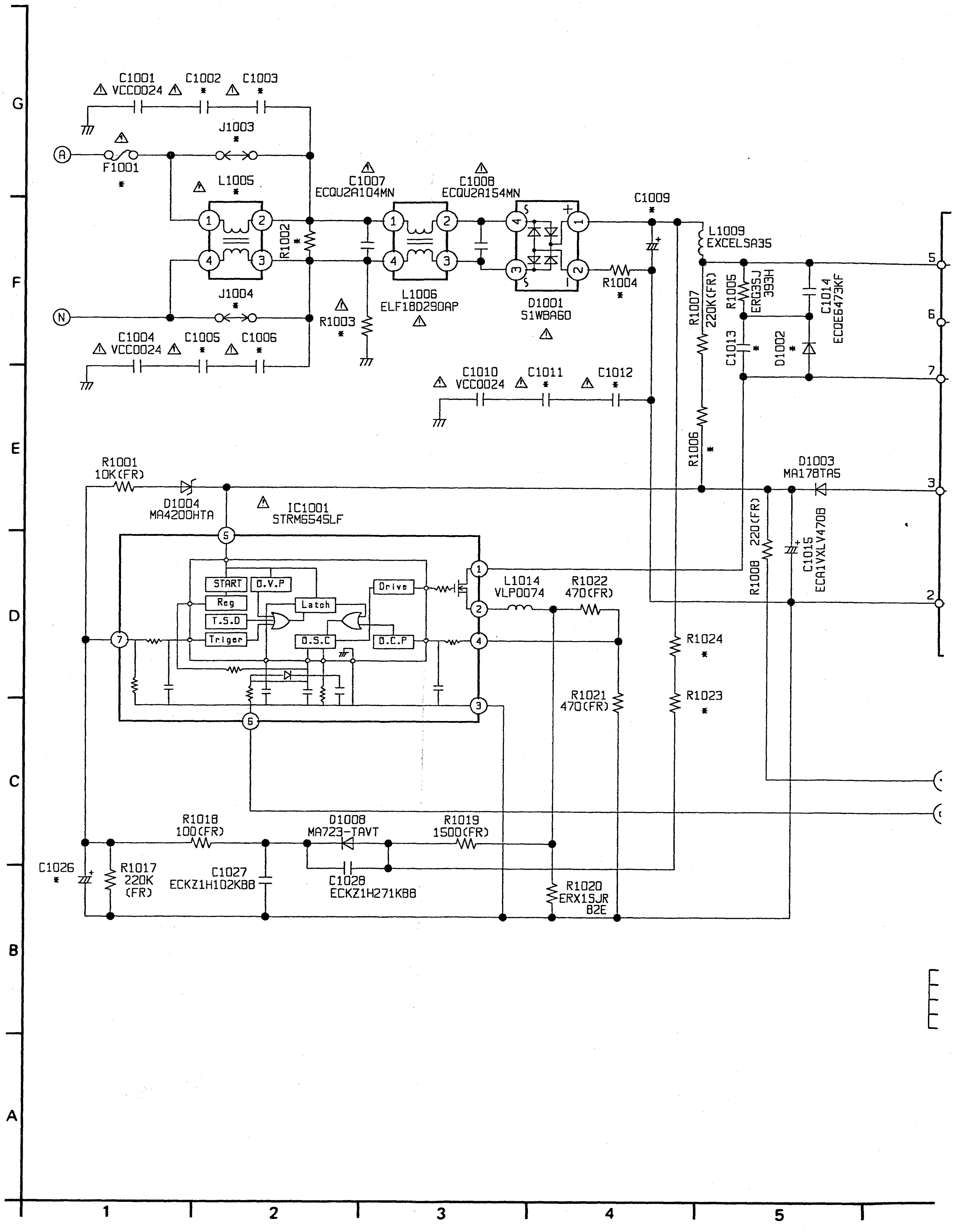


P6201
VJR0406
W6201
J6201
D6201
8P2M
R6201
D6202
MA4062-M
R6202
C6201
A
K

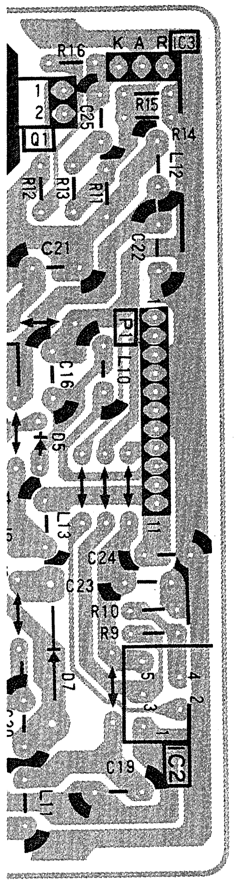
POWER 1(VEP01588B) POWER 2(VEP01589A) FOIL SIDE	
TRANSISTOR	
Q1001	G-5
INTEGRATED CIRCUITS	
IC1001	D-4
IC1002	G-1
IC1003	G-5
CONNECTOR	
P1001	G-3

ADDRESS INFORMATION

6-17. POWER SCHEMATIC DIAGRAM



C1001 VCC0024
C1002
C1003
J1003
F1001
L1005
C1007 ECQU2A104MN
C1008 ECQU2A154MN
C1009
L1009 EXCELSA35
R1002
R1003
J1004
L1006 ELF18D290AP
D1001 S1WBA60
R1004
R1007 220K(FR)
R1005 ERG3SJ 393H
C1013
D1002
C1014 ECQE6473KF
C1004 VCC0024
C1005
C1006
C1010 VCC0024
C1011
C1012
R1006
R1001 10K(FR)
D1004 MA4200HTA
IC1001 STRMG545LF
START
O.V.P
Reg
Latch
T.S.D
Drive
Triger
O.S.C
O.C.P
L1014 VLP0074
R1022 470(FR)
D1003 MA178TA5
R1008 220(FR)
C1015 ECA1VXLV470B
R1024
R1023
R1021 470(FR)
R1018 100(FR)
D1008 MA723-TAVT
R1019 1500(FR)
C1026
R1017 220K (FR)
C1027 ECKZ1H102KB8
C1028 ECKZ1H271KB8
R1020 ERX1SJR 82E
A
N
G
F
E
D
C
B
A
1
2
3
4
5


R16
K A R
IC3
Q1
R15
R14
R12
R13
R11
L12
C21
C22
P1
L10
C16
D5
L3
L1
C24
C23
R10
R9
D7
C19
IC2

OIL SIDE)

G

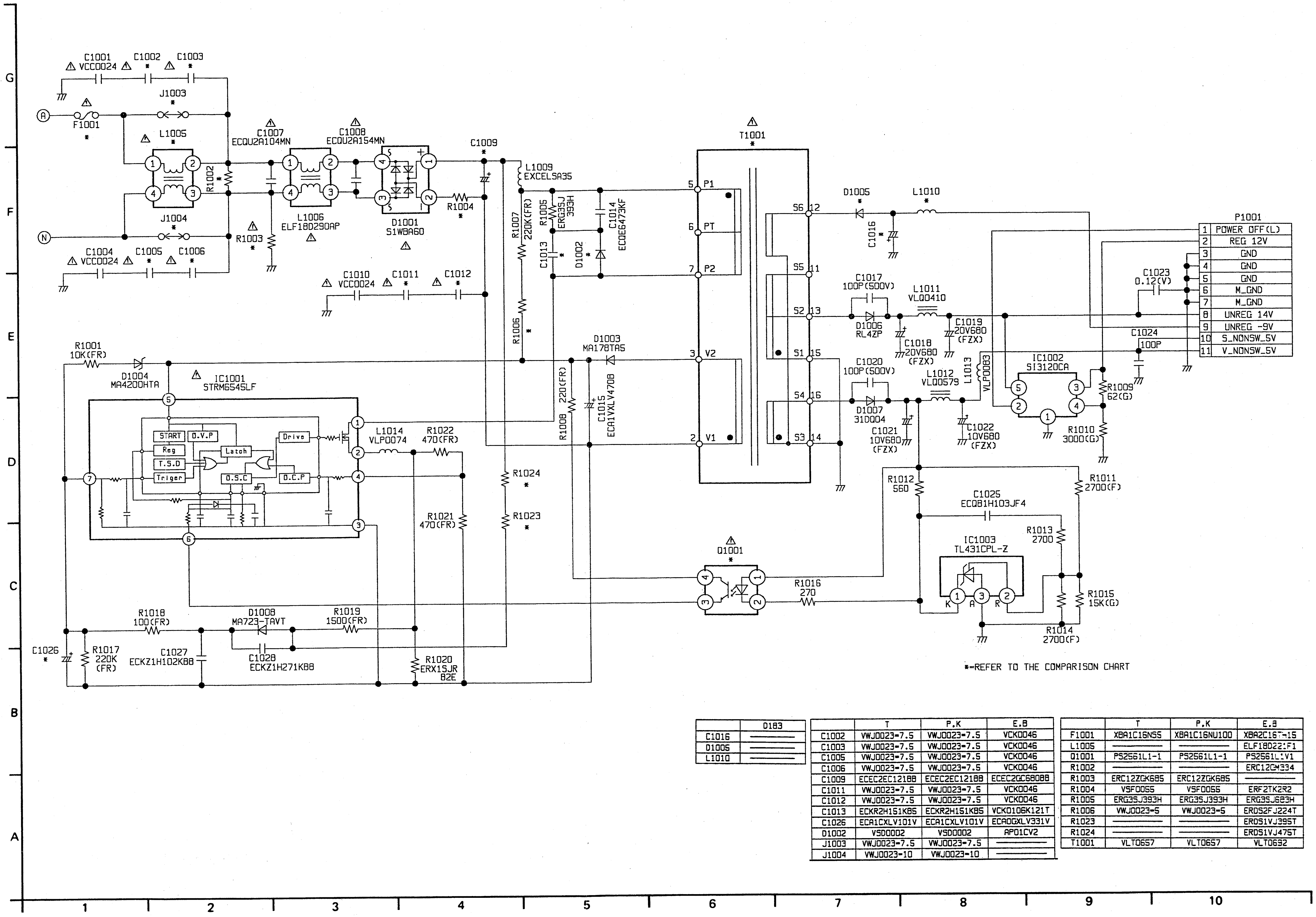
588B)
589A)

R
G-5

CUITS
D-4
G-1
G-5

R
G-3

6-17. POWER SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
C1001 VCC0024
C1002 *
C1003 *
J1003 *
A
N
F1001 *
L1005 *
C1007 ECQU2A104MN
C1008 ECQU2A154MN
R1002 *
R1003 *
J1004 *
L1006 ELF18D290AP
D1001 S1WBA60
R1004 *
C1004 VCC0024
C1005 *
C1006 *
C1009 *
L1009 EXCELSA35
C1010 VCC0024
C1011 *
C1012 *
R1007 220K(FR)
R1005 ERG3SJ 393H
C1013 *
D1002 *
C1014 ECQE6473KF
R1006 *
R1001 10K(FR)
D1004 MA4200HTA
IC1001 STRM6545LF
START
O.V.P
Reg
Latch
Drive
T.S.D
O.S.C
O.C.P
Triger
L1014 VLP0074
R1022 470(FR)
R1021 470(FR)
R1024 *
R1023 *
D1003 MA178TAS
R1008 220(FR)
C1015 ECA1VXLV470B
T1001 *
P1
PT
P2
V2
V1
S6
S5
S2
S1
S4
S3
D1005 *
L1010 *
C1016 *
C1017 100P(500V)
D1006 RL4ZP
L1011 VLQ0410
C1018 20V680 (FZX)
C1019 20V680 (FZX)
C1020 100P(500V)
D1007 31DQ04
C1021 10V680 (FZX)
L1012 VLQ0579
L1013 VLP0083
C1022 10V680 (FZX)
IC1002 SI3120CA
R1009 62(G)
R1010 3000(G)
C1023 0.12(V)
C1024 100P
P1001
POWER OFF(L)
REG 12V
GND
GND
GND
M_GND
M_GND
UNREG 14V
UNREG -9V
S_NONSW_5V
V_NONSW_5V
R1012 560
R1011 2700(F)
C1025 ECQB1H103JF4
R1013 2700
IC1003 TL431CPL-Z
R1015 15K(G)
R1014 2700(F)
Q1001 *
R1016 270
R1018 100(FR)
D1008 MA723-TAVT
R1019 1500(FR)
C1026 *
R1017 220K (FR)
C1027 ECKZ1H102KBB
C1028 ECKZ1H271KBB
R1020 ERX1SJR 82E

*=REFER TO THE COMPARISON CHART

	D183
C1016	————
D1005	————
L1010	————

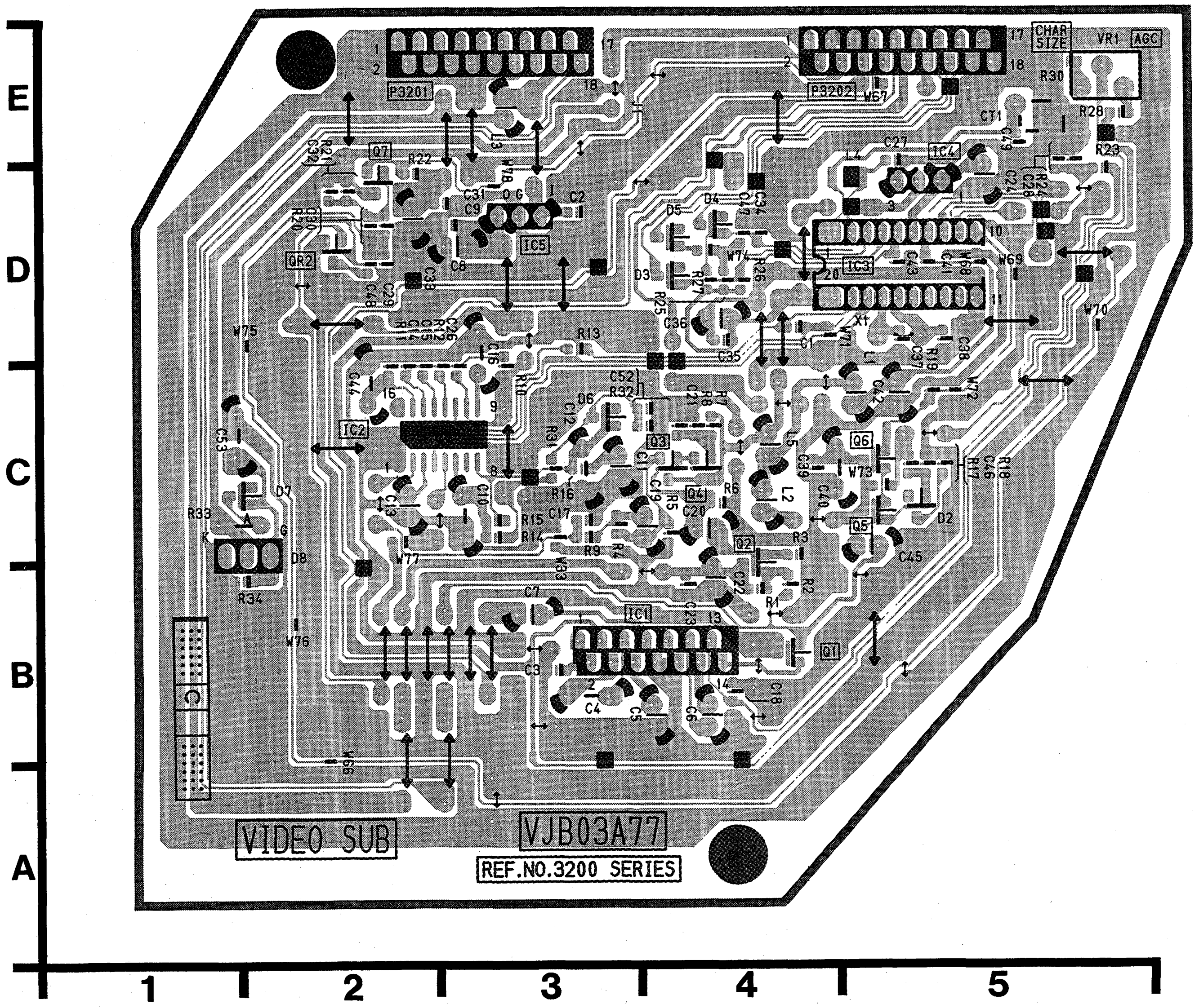
	T	P.K	E.B
C1002	VWJ0023-7.5	VWJ0023-7.5	VCK0046
C1003	VWJ0023-7.5	VWJ0023-7.5	VCK0046
C1005	VWJ0023-7.5	VWJ0023-7.5	VCK0046
C1006	VWJ0023-7.5	VWJ0023-7.5	VCK0046
C1009	ECEC2EC121BB	ECEC2EC121BB	ECEC2GC680BB
C1011	VWJ0023-7.5	VWJ0023-7.5	VCK0046
C1012	VWJ0023-7.5	VWJ0023-7.5	VCK0046
C1013	ECKR2H151KB5	ECKR2H151KB5	VCK0106K121T
C1026	ECA1CXLV101V	ECA1CXLV101V	ECA0GXLV331V
D1002	VSD0002	VSD0002	AP01CV2
J1003	VWJ0023-7.5	VWJ0023-7.5	————
J1004	VWJ0023-10	VWJ0023-10	————

	T	P.K	E.B
F1001	XBA1C16NS5	XBA1C16NU100	XBA2C16TR15
L1005	————	————	ELF18D221F1
Q1001	PS2561L1-1	PS2561L1-1	PS2561L1V1
R1002	————	————	ERC12CM334
R1003	ERC12ZGK685	ERC12ZGK685	————
R1004	VSF0055	VSF0055	ERF2TK2R2
R1005	ERG3SJ393H	ERG3SJ393H	ERG3SJ683H
R1006	VWJ0023-5	VWJ0023-5	ERDS2FJ224T
R1023	————	————	ERDS1VJ395T
R1024	————	————	ERDS1VJ475T
T1001	VLT0657	VLT0657	VLT0692

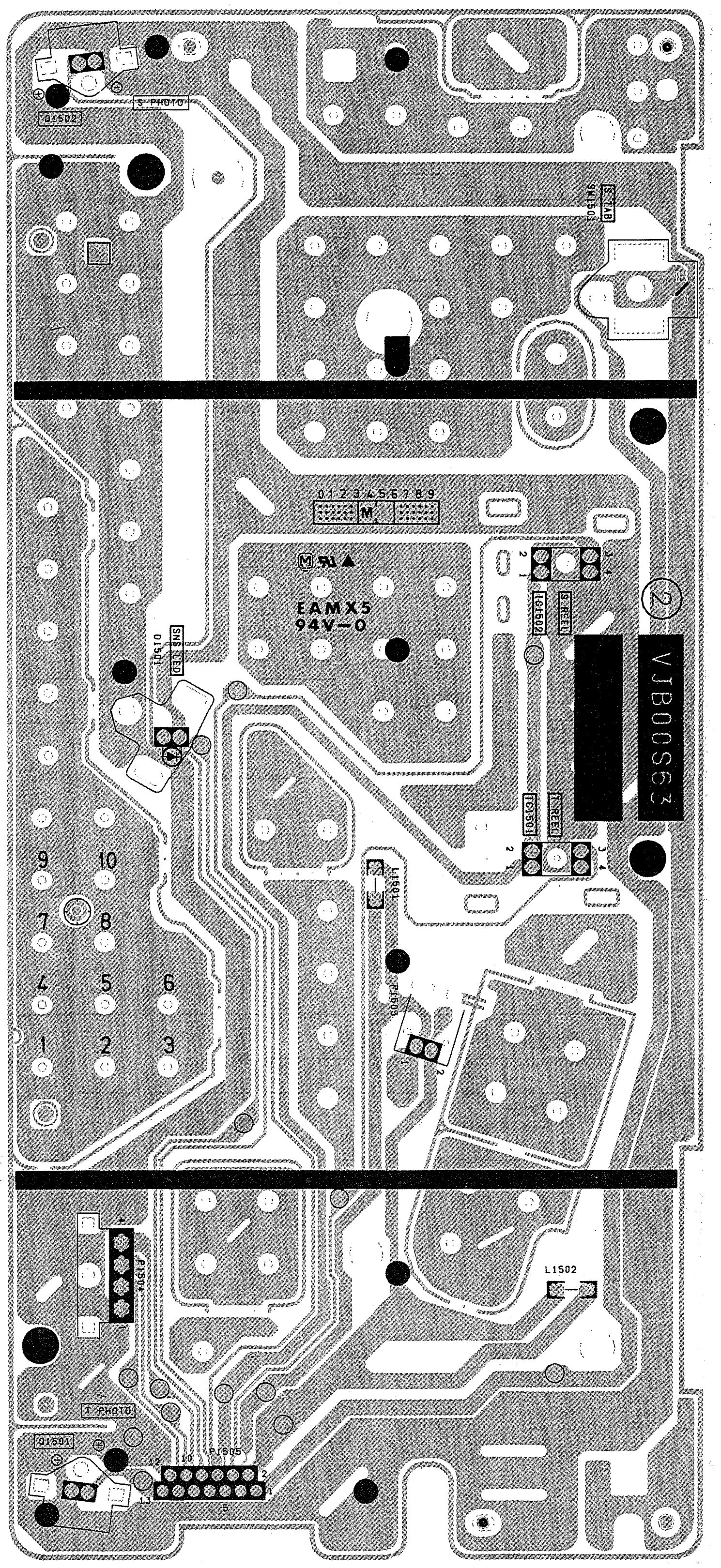
6-18. VIDEO SUB C.B.A. (VEP03A77A)

VIDEO SUB MAIN			
COMPONENT SIDE		FOIL SIDE	
TRANSISTOR		INTEGRATED CIRCUITS	
Q3201	B-4	IC3202	C-2
Q3202	C-4	IC3203	D-4
Q3203	C-4	IC3204	D-5
Q3204	C-4	IC3205	D-3
Q3205	C-5	ADJUSTMENT	
Q3206	C-5	VR3201	E-5
Q3207	D-2	CT3201	E-5
TRANSISTOR RESISTOR		CONNECTOR	
QR3202	D-2	P3201	E-2
INTEGRATED CIRCUITS		P3202	E-4
IC3201	B-2		

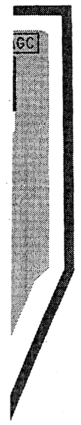
ADDRESS INFORMATION

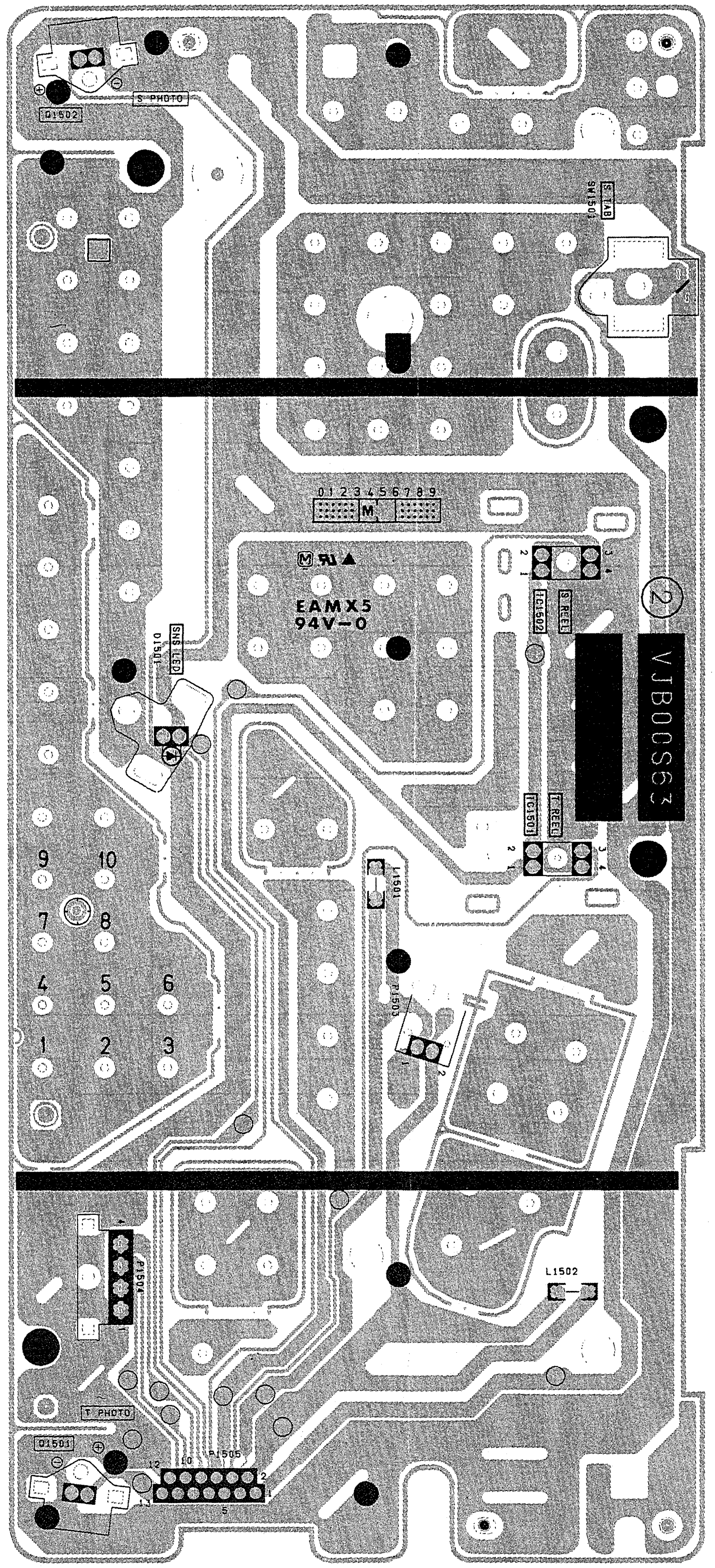

E
D
C
B
A
1
2
3
4
5
P3201
P3202
VR1
AGC
CHAR SIZE
IC1
IC2
IC3
IC4
IC5
Q1
Q2
Q3
Q4
Q5
Q6
Q7
QR2
VIDEO SUB
VJB03A77
REF.NO.3200 SERIES

6-19. MECHANISM CONNECTION C.B.A. (VEP00S63C)


S PHOTO
T PHOTO
Q1502
Q1501
SW1501
EAMX5
94V-0
VJB00S63
L1502
P1505

6-19. MECHANISM CONNECTION C.B.A. (VEP00S63C)

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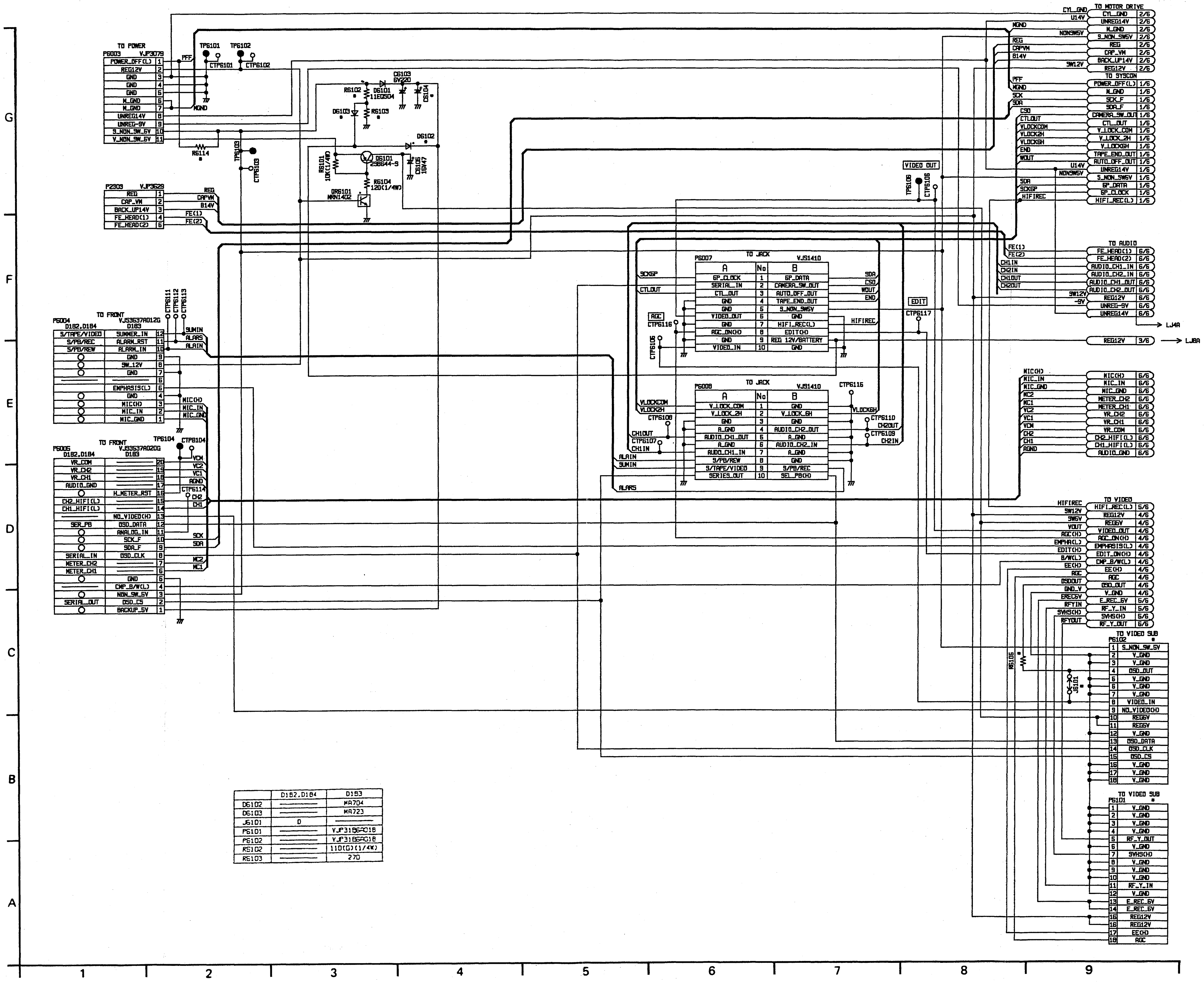
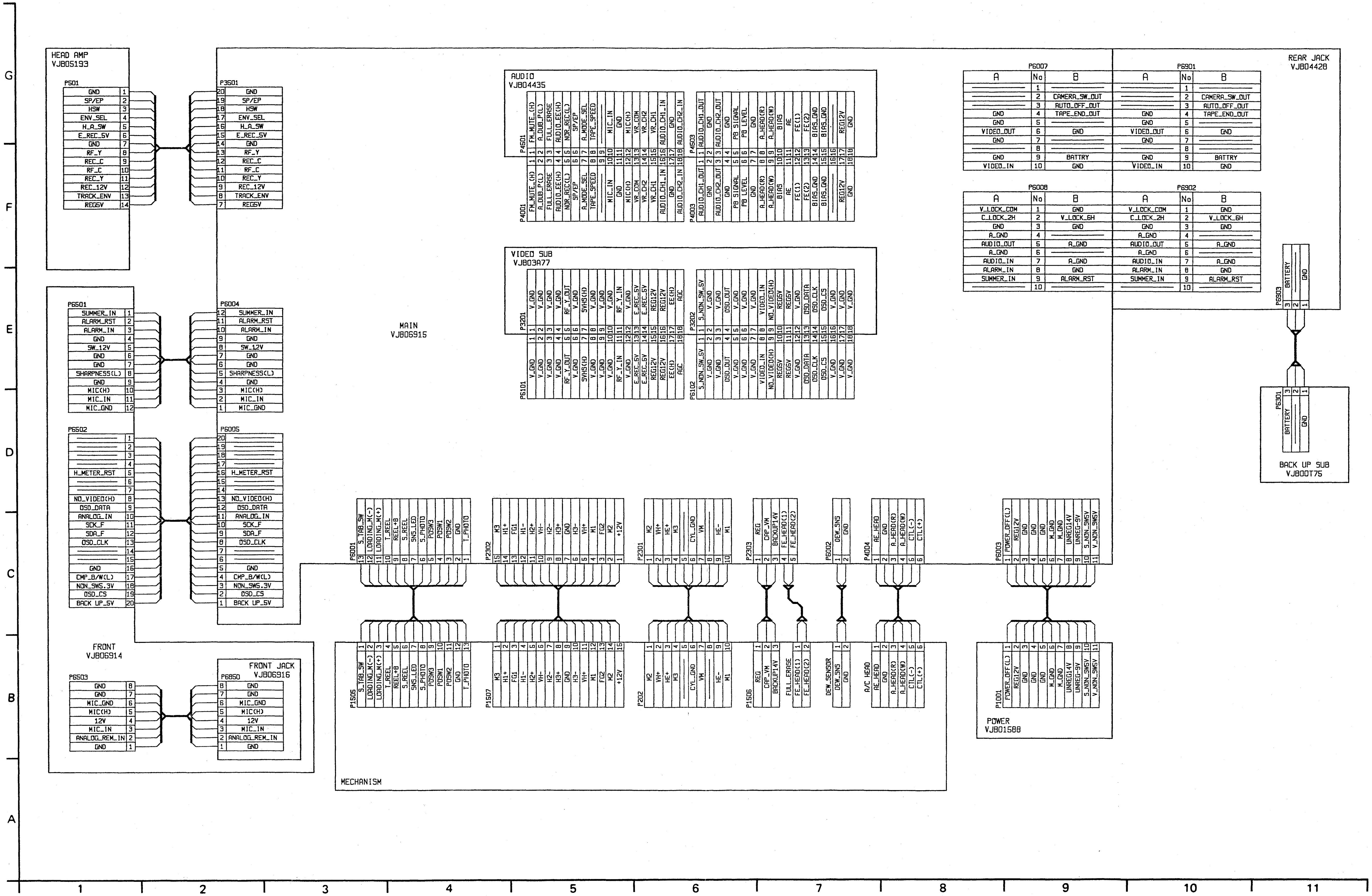
S PHOTO
S TAB
SW1501
0 1 2 3 4 5 6 7 8 9
M
EAMX5
94V-0
SNS LED
D1501
IC1502
S REEL
2
VJB00S63
IC1501
T REEL
L1501
P1503
9
10
7
8
4
5
6
1
2
3
P1504
L1502
T PHOTO
Q1501
12
10
P1505
2
1
11
5

6-20. INTERFACE SCHEMATIC DIAGRAM


TO POWER
P6003 VJP3079
TO FRONT
P6004 D182,D184 VJS3637A012G D183
TO FRONT
P6005 D182,D184 VJS3637A020G D183
P2309 VJP3629
TP6101
TP6102
TP6103
TP6104
D6101 11E0504
D6102
D6103 6V220
D6104
D6105 16V47
Q6101 2SB644-S
QR6101 MRN1402
R6101 10K(1/4W)
R6102
R6103
R6104 120(1/4W)
R6114
R6105
J6101
P6007 TO JACK VJS1410
P6008 TO JACK VJS1410
VIDEO OUT
EDIT
AGC
TO MOTOR DRIVE
TO SYSCON
TO AUDIO
TO VIDEO
TO VIDEO SUB P6102
TO VIDEO SUB P6101
LJ4A
LJ8A
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

	D182,D184	D183
D6102	———	MA704
D6103	———	MA723
J6101	D	———
P6101	———	VJP3186A018
P6102	———	VJP3186A018
R6102	———	110(G)(1/4W)
R6103	———	270

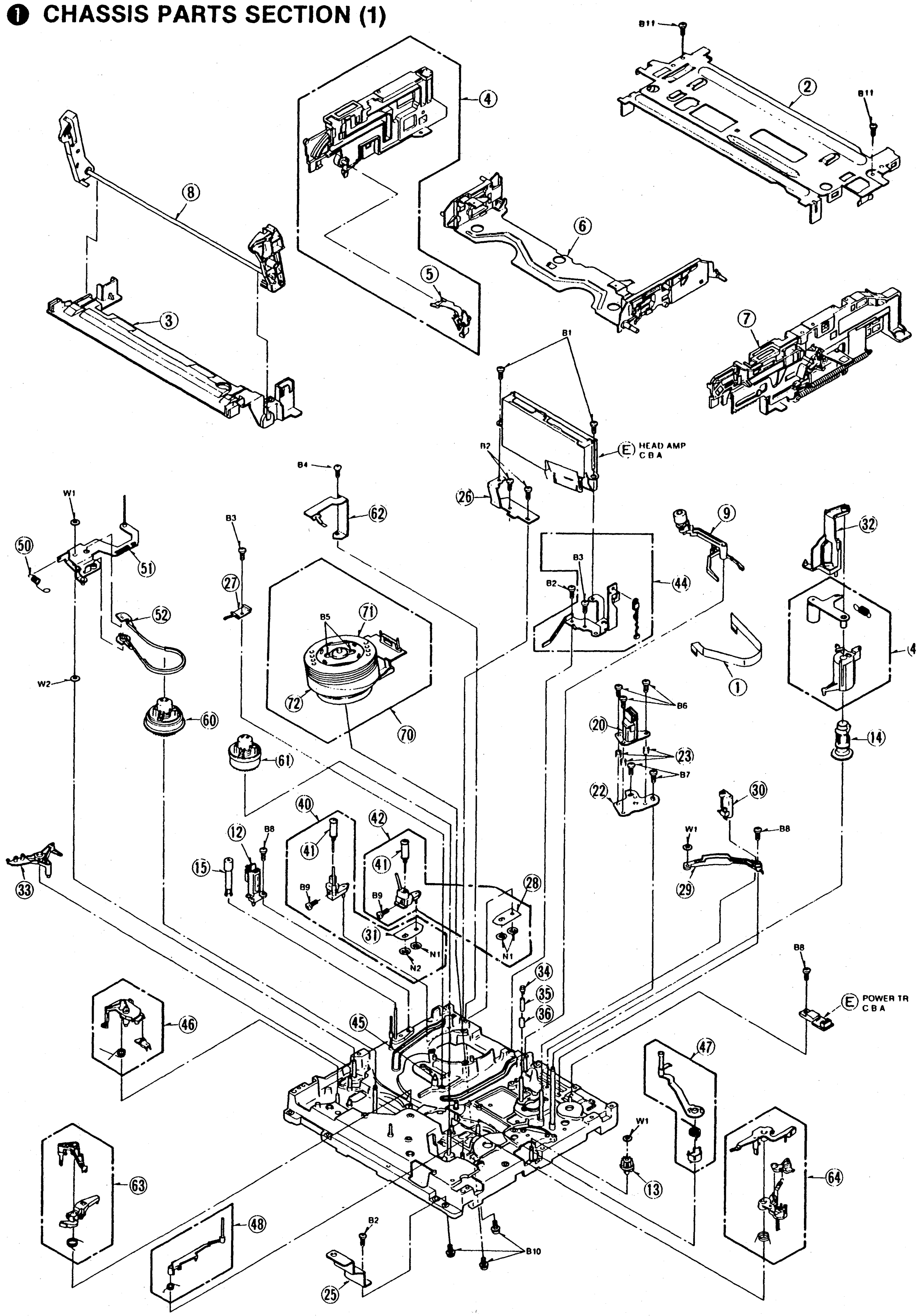
6-21. INTER CONNECTION SCHEMATIC DIAGRAM


HEAD AMP
VJB05193
P501
P3501
MAIN
VJB06915
AUDIO
VJB04435
P4501
P4001
P4503
P4003
VIDEO SUB
VJB03A77
P3201
P6101
P3202
P6102
P6501
P6004
P6502
P6005
P6007
P6901
P6008
P6902
REAR JACK
VJB04428
P6903
P6301
BATTERY
BACK UP SUB
VJB00T75
P6001
P2302
P2301
P2303
P6002
P4004
P6003
P1505
P1507
P202
P1506
P1001
POWER
VJB01588
MECHANISM
FRONT
VJB06914
P6503
FRONT JACK
VJB06916
P6850
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

7-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

❶ CHASSIS PARTS SECTION (1)

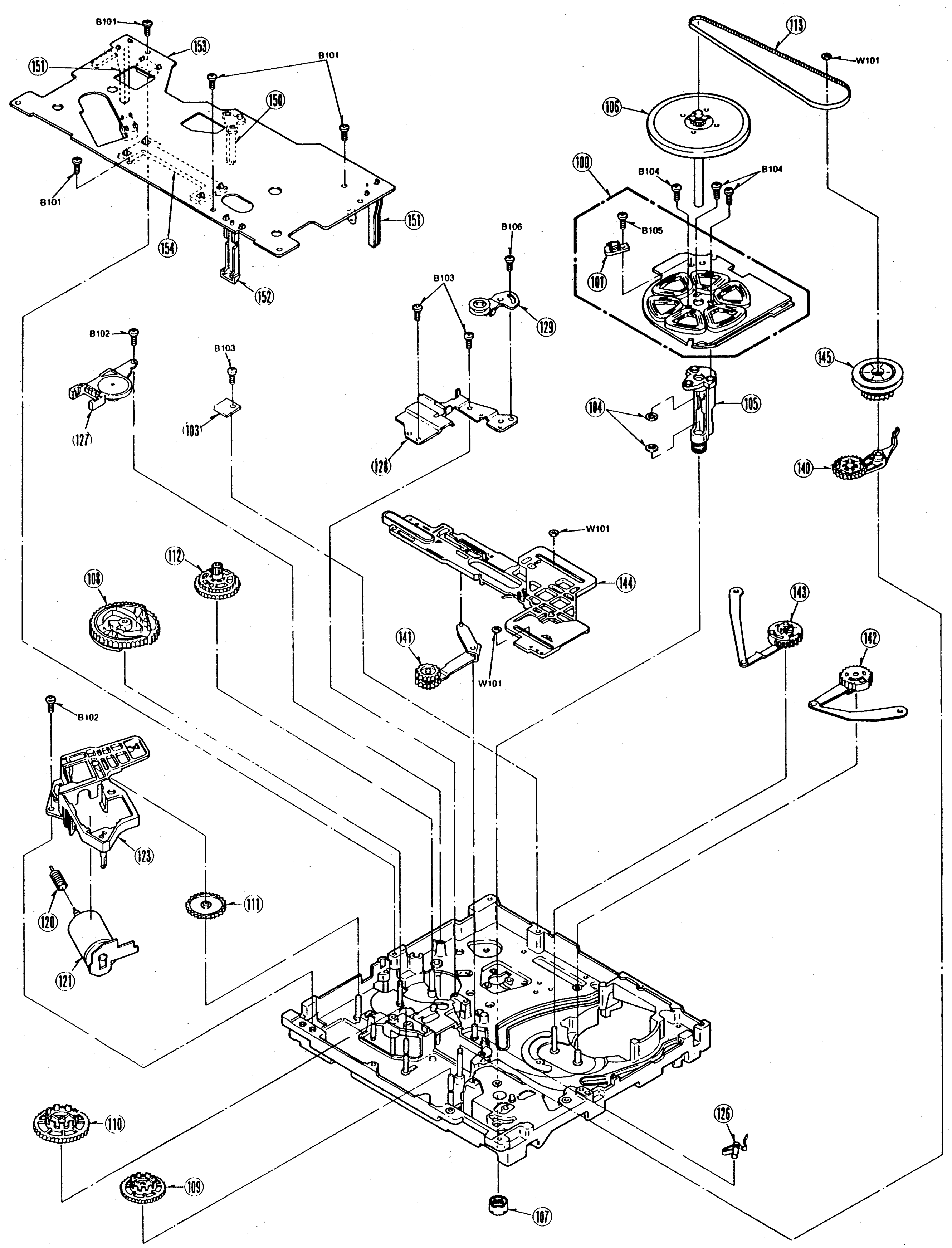


Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VWJ0653	FLEXIBLE CABLE (6P)	1	
2(1)	VMA8644	TOP PLATE	1	
3(1)	VMA8787	CASSETTE GUIDE	1	
4(1)	VXA4660	SIDE PLATE (L) UNIT	1	
5(1)	VXL2250	OPENER LEVER UNIT	1	
6(1)	VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)	VXA4806	SIDE PLATE (R) UNIT	1	
8(1)	VXP1339	MAIN SHAFT UNIT	1	
9(1)	VXL2251	CLEANER ARM UNIT	1	
10(1)	VXP1366	CLEANER ROLLER UNIT	1	
12(1)	VBS0050	FE HEAD	1	
13(1)	VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)	VDG0886	PINCH CAM GEAR	1	
15(1)	VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)	VED0205	A/C HEAD (1) UNIT	1	
22(1)	VMA8624	A/C HEAD BASE	1	
23(1)	VMB2515	A/C HEAD SPRING	3	
25(1)	VMA8761	MOUNT ANGLE	1	
26(1)	VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)	VMC0917	EARTH SPRING	1	
28(1)	VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)	VMD2078	P5 STOPPER BASE	1	
30(1)	VXA4927	P5 POST STOPPER	1	
31(1)	VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)	VMD2101	OPENER PIECE	1	
33(1)	VML2776	TENSION SPRING ARM	1	
34(1)	VMX1544	P4 UPPER LIMITER	1	
35(1)	VMX2175	P4 SLEEVE	1	
36(1)	VMX2176	P4 LOWER LIMITER	1	
40(1)	VXA4982KIT	INCLIND BASE (S) UNIT	1	
41(1)	VXP1415	ROLLER POST (S)	1	
42(1)	VXA4984KIT	INCLIND BASE (T) UNIT	1	
44(1)	VXA4869	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)	VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)	VXL2310	REVIEW ARM UNIT	1	
47(1)	VXL2306	P5 ARM UNIT	1	
48(1)	VXL2243	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)	VXL2246	PINCH ARM UNIT	1	
50(1)	VMB2434	TENSION SPRING	1	
51(1)	VXL2309	TENSION ARM (1) UNIT	1	
52(1)	VXZ0310	TENSION BAND UNIT	1	
60(1)	VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)	VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)	VXS0114	EARTH PLATE	1	
63(1)	VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)	VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)	VEG1138	CYLINDER UNIT	1	
71(1)	VEH0656	UPPER CYLINDER UNIT	1	
72(1)	VJR0082	RT TERMINAL	1	
B1	VHD0773	SCREW	2	
B2	XTV26+6F	SCREW	4	
B3	XTV26+4F	SCREW	2	
B4	XTN3+6FFZ	SCREW	1	
B5	VHD0425	SCREW	2	
B6	VHD0762	SCREW	3	
B7	XTV26+6FZ	SCREW	2	
B8	XTV26+8F	SCREW	3	
B9	VHD0760	SCREW	2	
B10	VHD0342	SCREW	3	
N1	VHN0192	NUT	3	
N2	VHN0193	NUT	1	
W1	VMX2208	WASHER	3	
W2	XWGV26D5G	WASHER	1	
100(2)	VEK5927	STATOR UNIT	1	
101(2)	VBK0061	FG HEAD	1	
103(2)	VMA8765	ROTOR STOPPER	1	
104(2)	VMX1927	OIL SEAL	2	
105(2)	VXD0140	HOUSING UNIT	1	
106(2)	VXP1471	ROTOR UNIT	1	
107(2)	VXQ0297	THRUST SCREW UNIT	1	
108(2)	VDG0913	MAIN CAM GEAR	1	
109(2)	VDG0861	SUPPLY REEL GEAR	1	
110(2)	VDG0862	TAKE UP REEL GEAR	1	
111(2)	VDG0868	WORM WHEEL GEAR	1	
112(2)	VDG0885	SUB CAM GEAR	1	
113(2)	VDV0235	TIMING BELT	1	
120(2)	VDG0866	WORM GEAR	1	
121(2)	VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)	VMD1942	MOTOR BRACKET	1	
126(2)	VML2725	IDLER CONTROL LEVER	1	
127(2)	VSS0365	MODE SW	1	
128(2)	VMA8965	SS BRAKE BASE UNIT	1	
129(2)	VXA4799	TENSION ROLLER UNIT	1	
140(2)	VXL2229	IDLER ARM UNIT	1	
141(2)	VXL2230	DIRECT LEVER UNIT	1	
142(2)	VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)	VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)	VXL2307	MAIN LEVER UNIT	1	
145(2)	VXP1409	CENTRE CLUTCH	1	
150(2)	VMD1926	LED HOLDER	1	
151(2)	VMD1927	PHOTO TRANSISTOR HOLDER	2	
152(2)	VES0695	SAFETY TAB SW	1	
153(2)	VJB00S63	MECHANISM CONNECTION C.B.	1	ELECTRICAL PARTS ON THE C.B.A.IS LISTED ON ELECTRICAL PARTS LIST.
154(2)	VMD2029	REEL SHAFT GUIDE	1	
B101	VHD0772	SCREW	4	
B102	XTV26+8F	SCREW	2	
B103	XTV26+6F	SCREW	3	
B104	VHD0753	SCREW	3	
B105	VHD0754	SCREW	1	
B106	XSB26+4FZ	SCREW	1	
W101	VMX2208	WASHER	3	

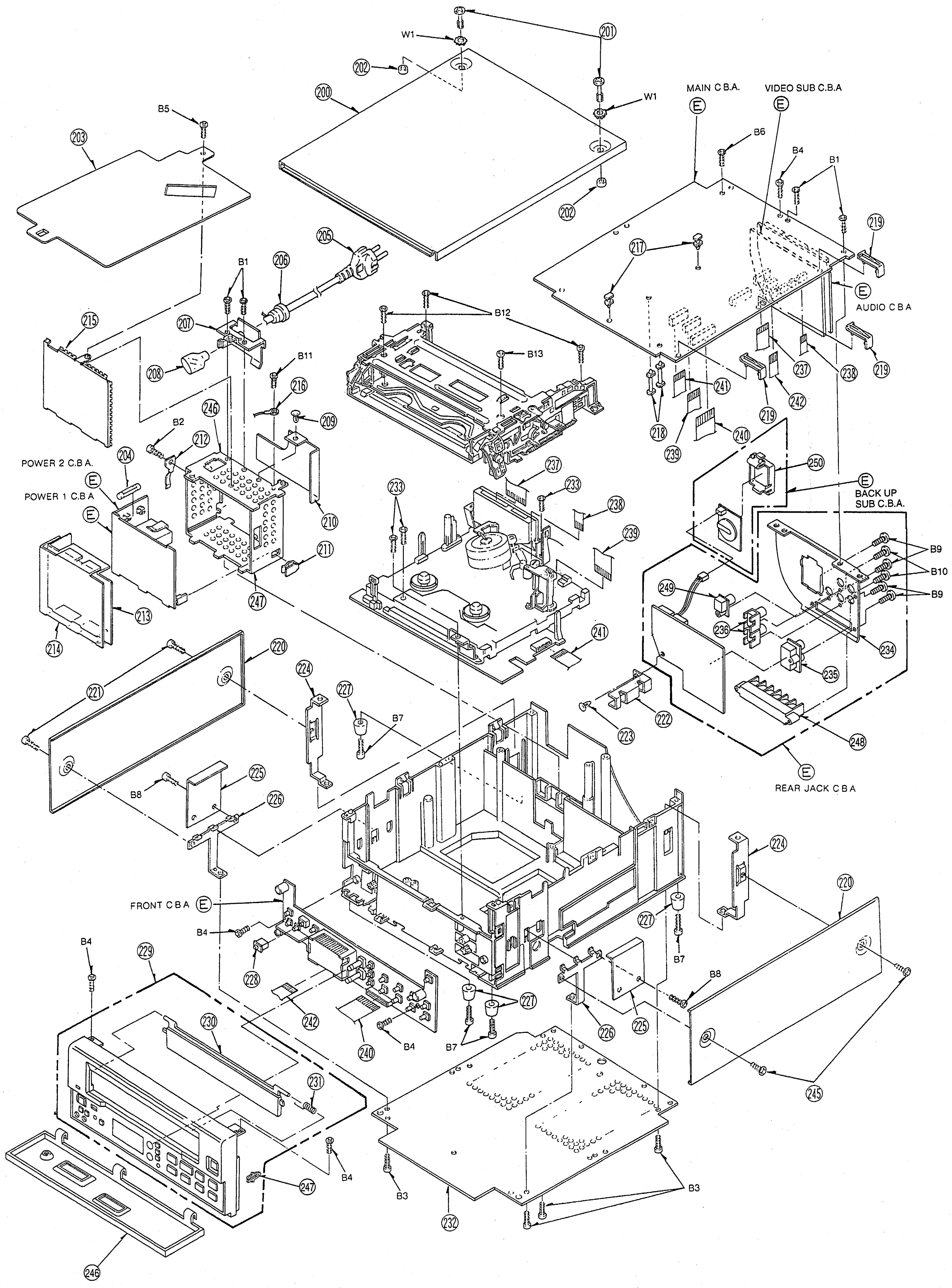
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VWJ0653	FLEXIBLE CABLE (6P)	1	
2(1)	VMA8644	TOP PLATE	1	
3(1)	VMA8787	CASSETTE GUIDE	1	
4(1)	VXA4660	SIDE PLATE (L) UNIT	1	
5(1)	VXL2250	OPENER LEVER UNIT	1	
6(1)	VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)	VXA4806	SIDE PLATE (R) UNIT	1	
8(1)	VXP1339	MAIN SHAFT UNIT	1	
9(1)	VXL2251	CLEANER ARM UNIT	1	
10(1)	VXP1366	CLEANER ROLLER UNIT	1	
12(1)	VBS0050	FE HEAD	1	
13(1)	VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)	VDG0886	PINCH CAM GEAR	1	
15(1)	VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)	VED0205	A/C HEAD (1) UNIT	1	
22(1)	VMA8624	A/C HEAD BASE	1	
23(1)	VMB2515	A/C HEAD SPRING	3	
25(1)	VMA8761	MOUNT ANGLE	1	
26(1)	VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)	VMC0917	EARTH SPRING	1	
28(1)	VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)	VMD2078	P5 STOPPER BASE	1	
30(1)	VXA4927	P5 POST STOPPER	1	
31(1)	VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)	VMD2101	OPENER PIECE	1	
33(1)	VML2776	TENSION SPRING ARM	1	
34(1)	VMX1544	P4 UPPER LIMITER	1	
35(1)	VMX2175	P4 SLEEVE	1	
36(1)	VMX2176	P4 LOWER LIMITER	1	
40(1)	VXA4982KIT	INCLIND BASE (S) UNIT	1	
41(1)	VXP1415	ROLLER POST (S)	1	
42(1)	VXA4984KIT	INCLIND BASE (T) UNIT	1	
44(1)	VXA4869	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)	VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)	VXL2310	REVIEW ARM UNIT	1	
47(1)	VXL2306	P5 ARM UNIT	1	
48(1)	VXL2243	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)	VXL2246	PINCH ARM UNIT	1	
50(1)	VMB2434	TENSION SPRING	1	
51(1)	VXL2309	TENSION ARM (1) UNIT	1	
52(1)	VXZ0310	TENSION BAND UNIT	1	
60(1)	VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)	VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)	VXS0114	EARTH PLATE	1	
63(1)	VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)	VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)	VEG1138	CYLINDER UNIT	1	
71(1)	VEH0656	UPPER CYLINDER UNIT	1	
72(1)	VJR0082	RT TERMINAL	1	
B1	VHD0773	SCREW	2	
B2	XTV26+6F	SCREW	4	
B3	XTV26+4F	SCREW	2	
B4	XTN3+6FFZ	SCREW	1	
B5	VHD0425	SCREW	2	
B6	VHD0762	SCREW	3	
B7	XTV26+6FZ	SCREW	2	
B8	XTV26+8F	SCREW	3	
B9	VHD0760	SCREW	2	
B10	VHD0342	SCREW	3	
N1	VHN0192	NUT	3	
N2	VHN0193	NUT	1	
W1	VMX2208	WASHER	3	
W2	XWGV26D5G	WASHER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
100(2)	VEK5927	STATOR UNIT	1	
101(2)	VBK0061	FG HEAD	1	
103(2)	VMA8765	ROTOR STOPPER	1	
104(2)	VMX1927	OIL SEAL	2	
105(2)	VXD0140	HOUSING UNIT	1	
106(2)	VXP1471	ROTOR UNIT	1	
107(2)	VXQ0297	THRUST SCREW UNIT	1	
108(2)	VDG0913	MAIN CAM GEAR	1	
109(2)	VDG0861	SUPPLY REEL GEAR	1	
110(2)	VDG0862	TAKE UP REEL GEAR	1	
111(2)	VDG0868	WORM WHEEL GEAR	1	
112(2)	VDG0885	SUB CAM GEAR	1	
113(2)	VDV0235	TIMING BELT	1	
120(2)	VDG0866	WORM GEAR	1	
121(2)	VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)	VMD1942	MOTOR BRACKET	1	
126(2)	VML2725	IDLER CONTROL LEVER	1	
127(2)	VSS0365	MODE SW	1	
128(2)	VMA8965	SS BRAKE BASE UNIT	1	
129(2)	VXA4799	TENSION ROLLER UNIT	1	
140(2)	VXL2229	IDLER ARM UNIT	1	
141(2)	VXL2230	DIRECT LEVER UNIT	1	
142(2)	VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)	VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)	VXL2307	MAIN LEVER UNIT	1	
145(2)	VXP1409	CENTRE CLUTCH	1	
150(2)	VMD1926	LED HOLDER	1	
151(2)	VMD1927	PHOTO TRANSISTOR HOLDER	2	
152(2)	VES0695	SAFETY TAB SW	1	
153(2)	VJB00S63	MECHANISM CONNECTION C.B.	1	ELECTRICAL PARTS ON THE C.B.A.IS LISTED ON ELECTRICAL PARTS LIST.
154(2)	VMD2029	REEL SHAFT GUIDE	1	
B101	VHD0772	SCREW	4	
B102	XTV26+8F	SCREW	2	
B103	XTV26+6F	SCREW	3	
B104	VHD0753	SCREW	3	
B105	VHD0754	SCREW	1	
B106	XSB26+4FZ	SCREW	1	
W101	VMX2208	WASHER	3	

❷ CHASSIS PARTS SECTION (2)



❸ CASING PARTS SECTION


W1
201
202
200
B5
203
202
205
206
B1
215
207
208
B11
216
209
B2
212
246
204
POWER 2 C.B.A.
POWER 1 C.B.A
210
211
213
247
214
B12
B13
MAIN C.B.A.
VIDEO SUB C.B.A
B6
B4
B1
219
217
AUDIO C B A
218
241
237
238
219
239
240
219
242
250
BACK UP SUB C.B.A.
233
237
233
238
239
B9
B10
B9
249
236
234
235
248
REAR JACK C B A
221
220
224
227
B7
241
222
223
B8
225
226
224
FRONT C B A
B4
B4
229
228
242
240
230
231
B4
B4
247
246
227
B7
B7
226
229
B8
220
245
B3
B3
232

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
200(3)	VGM1045	TOP PANEL	1	
201(3)	VHD0222	SCREW	2	
202(3)	VMX2248	SPACER	2	
203(3)	VSC4044	SHIELD SEAT (B)	1	
204(3)	XBA2C16TH15	FUSE 1.6A/125V	1	<!>
205(3)	VJA0675	AC CORD	1	<!>FOR AG-6124E
205(3)	VJA0800	AC CORD	1	<!>FOR AG-6124B
206(3)	VMX0936	AC CORD BUSHING	1	<!>
207(3)	VMP4260	POWER PLATE	1	
208(3)	VMX0237	AC CORD COVER	1	<!>
209(3)	VJF0649	RIVET	1	
210(3)	VMZ2292	BARRIER	1	
211(3)	VMC0357	TR HOLDER SPRING	1	
212(3)	VMC0525	EARTH SPRING	1	
213(3)	VMZ2243	BARRIER	1	
214(3)	VSC3999	BARRIER	1	
215(3)	VSC3959	SHIELD PLATE	1	
216(3)	VJH12	EARTH TERMINAL	1	
217(3)	VKC0295	SPACER	2	
218(3)	VKC0422	SPACER	2	
219(3)	VKC0421	HINGE	3	
220(3)	VGM1046	SIDE PANEL (R)	1	
221(3)	VHD0305	SCREW	4	
222(3)	VJF1094	P.C.BOARD HOLDER	1	
223(3)	VJF0649	RIVET	1	
224(3)	VMP4218	EARTH ANGLE (B)	2	
225(3)	VSC4046	SHIELD SEAT (C)	2	
226(3)	VMP4217	EARTH ANGLE (A)	2	
227(3)	VKA0133	RUBBER FOOT	4	
228(3)	VGU5582	SLIDE SW SHEET	1	
229(3)	VYP5455	FRONT PANEL UNIT	1	
230(3)	VKF2127	BLINDER PANEL	1	
231(3)	VMB2521	BLINDER PANEL SPRING	1	
232(3)	VKU0390	BOTTOM PLATE	1	
233(3)	VHD0168	SCREW	3	
234(3)	VJH0733	REAR JACK PANEL	1	
235(3)	VJJ0323	RCA PIN JACK	1	
236(3)	VJS3154	BNC CONNECTOR	2	
237(3)	VWJ20AW470B0	FLEXIBLE CABLE	1	
238(3)	VWJ0785	FLEXIBLE CABLE	1	
239(3)	VWJ15AW510B0	FLEXIBLE CABLE	1	
240(3)	VWJ20AW385B0	FLEXIBLE CABLE	1	
241(3)	VWJ13AW200B0	FLEXIBLE CABLE	1	
242(3)	VWJ12AW610B0	FLEXIBLE CABLE	1	
243(3)	VSC3957	SHIELD CASE	1	
244(3)	VSC3958	SHIELD CASE	1	
245(3)	VGM1070	SIDE PANEL (L)	1	
246(3)	VKF2133	FRONT DOOR	1	
247(3)	VGQ1442	LATCH	1	
248(3)	VJH0735	TERMINAL UNIT	1	
249(3)	VJJ0322	RCA PIN JACK	1	
250(3)	VGQ3373	BATTERY COVER	1	
W1	XWC4BFY	WASHER	2	
B1	XTV3+6F	SCREW	4	
B2	XTV26+4F	SCREW	1	
B3	XTB3+10F	SCREW	4	
B4	XTV3+10GR	SCREW	6	
B5	XTV3+6FR	SCREW	1	
B6	XYE3+EF8FR	SCREW	1	
B7	XTV3+14J	SCREW	4	
B8	XTV3+6J	SCREW	2	
B9	XTV3+10GFZ	SCREW	4	
B10	XTV3+8FFZ	SCREW	2	
B11	XYE4+EF6	SCREW	1	
B12	XTV26+8FR	SCREW	3	
B13	XTV26+10F	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
300(4)	VQT5545	OPERATING INSTRUCTIONS	1	FOR AG-6124E
300(4)	VQT5568	OPERATING INSTRUCTIONS	1	FOR AG-6124B
301(4)	VPN3798	CUSHION (R)	1	
302(4)	VPN3173	CUSHION (F)	1	
303(4)	VPG7288	PACKING CASE	1	FOR AG-6124E
303(4)	VPG7301	PACKING CASE	1	FOR AG-6124B
304(4)	VPF0136	CORD PROTECTION SEAT	1	

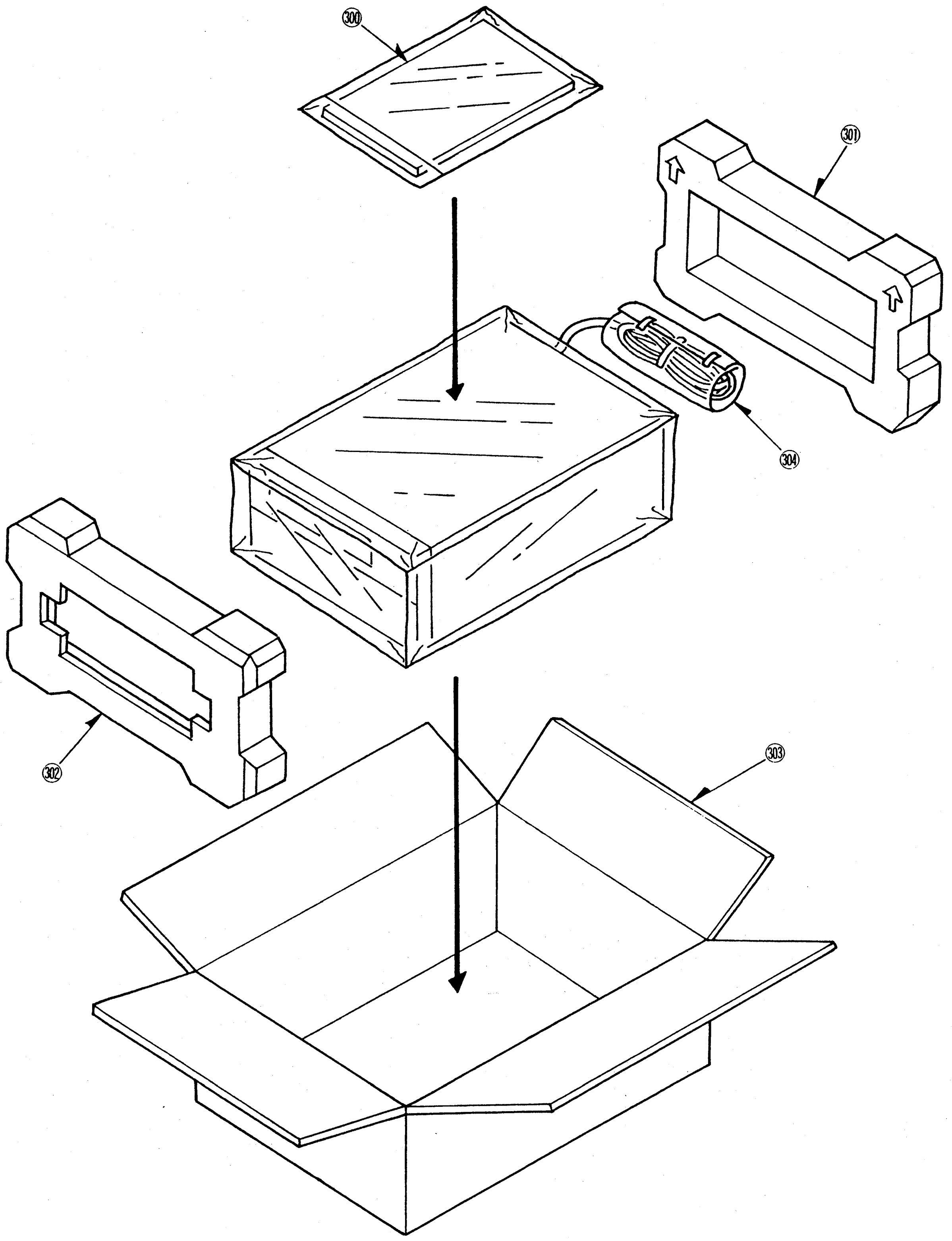
❹ PA

B9
B10
B9

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
200(3)	VGM1045	TOP PANEL	1	
201(3)	VHD0222	SCREW	2	
202(3)	VMX2248	SPACER	2	
203(3)	VSC4044	SHIELD SEAT (B)	1	
204(3)	XBA2C16TH15	FUSE 1.6A/125V	1	<!>
205(3)	VJA0675	AC CORD	1	<!>FOR AG-6124E
205(3)	VJA0800	AC CORD	1	<!>FOR AG-6124B
206(3)	VMX0936	AC CORD BUSHING	1	<!>
207(3)	VMP4260	POWER PLATE	1	
208(3)	VMX0237	AC CORD COVER	1	<!>
209(3)	VJF0649	RIVET	1	
210(3)	VMZ2292	BARRIER	1	
211(3)	VMC0357	TR HOLDER SPRING	1	
212(3)	VMC0525	EARTH SPRING	1	
213(3)	VMZ2243	BARRIER	1	
214(3)	VSC3999	BARRIER	1	
215(3)	VSC3959	SHIELD PLATE	1	
216(3)	VJH12	EARTH TERMINAL	1	
217(3)	VKC0295	SPACER	2	
218(3)	VKC0422	SPACER	2	
219(3)	VKC0421	HINGE	3	
220(3)	VGM1046	SIDE PANEL (R)	1	
221(3)	VHD0305	SCREW	4	
222(3)	VJF1094	P.C.BOARD HOLDER	1	
223(3)	VJF0649	RIVET	1	
224(3)	VMP4218	EARTH ANGLE (B)	2	
225(3)	VSC4046	SHIELD SEAT (C)	2	
226(3)	VMP4217	EARTH ANGLE (A)	2	
227(3)	VKA0133	RUBBER FOOT	4	
228(3)	VGU5582	SLIDE SW SHEET	1	
229(3)	VYP5455	FRONT PANEL UNIT	1	
230(3)	VKF2127	BLINDER PANEL	1	
231(3)	VMB2521	BLINDER PANEL SPRING	1	
232(3)	VKU0390	BOTTOM PLATE	1	
233(3)	VHD0168	SCREW	3	
234(3)	VJH0733	REAR JACK PANEL	1	
235(3)	VJJ0323	RCA PIN JACK	1	
236(3)	VJS3154	BNC CONNECTOR	2	
237(3)	VWJ20AW470B0	FLEXIBLE CABLE	1	
238(3)	VWJ0785	FLEXIBLE CABLE	1	
239(3)	VWJ15AW510B0	FLEXIBLE CABLE	1	
240(3)	VWJ20AW385B0	FLEXIBLE CABLE	1	
241(3)	VWJ13AW200B0	FLEXIBLE CABLE	1	
242(3)	VWJ12AW610B0	FLEXIBLE CABLE	1	
243(3)	VSC3957	SHIELD CASE	1	
244(3)	VSC3958	SHIELD CASE	1	
245(3)	VGM1070	SIDE PANEL (L)	1	
246(3)	VKF2133	FRONT DOOR	1	
247(3)	VGQ1442	LATCH	1	
248(3)	VJH0735	TERMINAL UNIT	1	
249(3)	VJJ0322	RCA PIN JACK	1	
250(3)	VGQ3373	BATTERY COVER	1	
W1	XWC4BFY	WASHER	2	
B1	XTV3+6F	SCREW	4	
B2	XTV26+4F	SCREW	1	
B3	XTB3+10F	SCREW	4	
B4	XTV3+10GR	SCREW	6	
B5	XTV3+6FR	SCREW	1	
B6	XYE3+EF8FR	SCREW	1	
B7	XTV3+14J	SCREW	4	
B8	XTV3+6J	SCREW	2	
B9	XTV3+10GFZ	SCREW	4	
B10	XTV3+8FFZ	SCREW	2	
B11	XYE4+EF6	SCREW	1	
B12	XTV26+8FR	SCREW	3	
B13	XTV26+10F	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
300(4)	VQT5545	OPERATING INSTRUCTIONS	1	FOR AG-6124E
300(4)	VQT5568	OPERATING INSTRUCTIONS	1	FOR AG-6124B
301(4)	VPN3798	CUSHION (R)	1	
302(4)	VPN3173	CUSHION (F)	1	
303(4)	VPG7288	PACKING CASE	1	FOR AG-6124E
303(4)	VPG7301	PACKING CASE	1	FOR AG-6124B
304(4)	VPF0136	CORD PROTECTION SEAT	1	

❹ PACKING PARTS SECTION



7-2. ELECTRICAL REPLACEMENT PARTS LIST

1 . ● Be sure to make your orders of replacement parts according to this list.
- "<R>" in Remark column indicates recommended parts.
- "<M>" in Remark column indicates needed in the periodical maintenance.

2 . IMPORTANT SAFETY NOTICE
Components indentified by "<!>" have special characteristics important for safety.
When replacing any of these components, use only the original ones.
Meaning of symbol "<!>" on this parts list is exactly the same as synbol⚠on Schematic and Circuit Board Diagrams.

3 . Unless otherwise specified;
All resistors are in (Ω), K=1,000Ω, M=1,000kΩ.
All capacitors are in (F), U=10^{-6} F, P=10^{-12} F.

4 . ITEM NUMBERS WITH CAPITAL LETER E
Item numbers woth capital leter E (Example: E1, E2, ...) in Ref. no. column mean that the parts are listed with the E item numbers in the exploded views.

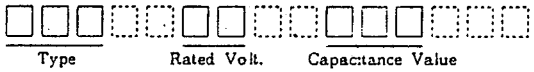
5 . The main assembled parts are shown below C.B.A. marked with "■".

6 . When ordering parts, use parts No. only form Part No. column.

7 . Printed circuit board assembly with mark (RTL) is no longer available after discontinuation of the product.

8 . Explanation of part number

(CAPACITOR)



Type

Type	Delectric
ECA ECE ECS ECO	ELECTROLYTIC CAPACITOR
ECC ECF ECK ECU	CERAMIC CAPACITOR
ECH ECQ ECW	PLASTIC FILM CAPACITOR

Rated Volt.

Code	0G	0J	1A	1C	1D	1E	1V	1H	1J	1K
W.V. (V)	4	6.3	10	16	20	25	35	50	63	80

Code	2A	2C	2P	2D	2E	2F	2V	2G	2W	2H
W.V. (V)	100	160	180	200	250	315	350	400	450	500

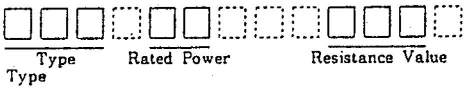
Capacitance Value

The 1st 2 figures are actual values and the 3rd denotes the number of zero.
"R" denotes the decimal point and all figures are the actual number with "R".

※ Unit Electrolytic capacitor ····· μF
Ceramic capacitor ····· pF
Plastic film capacitor ····· pF

Example : ECEA1HU221 → ELECTCTROYTIC CAPACITOR
50V 220μF

(RESISTOR)



Type

Type	Delectric
ERD	CARBON RESISTOR
ERF FRW	WIRE WOUND RESISTOR
ERQ ERU	FISE RESISTOR
ERC	SOLID RESISTOR
ERX ERG ERO ERN	METAL RESISTOR
ERJ	CHIP RESISTOR
ERS	THERMAL SENSTIVE RESISTOR

Rated Power

Code	1	2	3	3G	6	8	10	12	14	25
R.Power (w)	1	2	3	1/16	1/10	1/8	1/8	1/2	1/4	1/4

Code	S1	S2								
R.Power (w)	1/2	1/4								

Resistance Value

The 1st 2 figures are actual values and the 3rd denotes the number of zero.
"R" denotes the decimal point and all figures are the actual number with "R".

Example : ERDS2TJ471 → CARBON RESISTOR
1/4W 470Ω

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP01588A	P.C.BOARD W/COMPONENT	1	
			POWER (1)		
		VEP01589B	P.C.BOARD W/COMPONENT	1	
			POWER (2)		
		VEP00T75A	P.C.BOARD W/COMPONENT	1	
			BACK UP SUB		
		VEP03A77A	P.C.BOARD W/COMPONENT	1	
			VIDEO SUB		
		VEP04428A	P.C.BOARD W/COMPONENT	1	
			REAR JACK		
		VEP04435A	P.C.BOARD W/COMPONENT	1	
			AUDIO		
		VEP05193A	P.C.BOARD W/COMPONENT	1	
			HEAD AMP		
		VEP06914C	P.C.BOARD W/COMPONENT	1	
			FRONT		
		VEP06916C	P.C.BOARD W/COMPONENT	1	
			FRONT SUB		
		VEP06915C	P.C.BOARD W/COMPONENT	1	
			MAIN		
		VEP00S63C	P.C.BOARD W/COMPONENT	1	
			MECHANISM CONNECTION		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP01588A	P.C.BOARD W/COMPONENT		
			POWER (1)		
			CAPACITORS		
C1007		ECQU2A104MN	P.CAPACITOR 100V 1U	1	<!>
C1008		ECQU2A154MN	P.CAPACITOR 100V 0.15U	1	<!>
C1009		ECEC2GC680BB	E.CAPACITOR 400V 68P	1	
C1010		VCC0024	C.CAPACITOR	1	<!>
C1011,12		VCK0046	C.CAPACITOR	2	<!>
C1013		VCK0106K121	C.CAPACITOR 120P	1	
C1014		ECQE6473KF	P.CAPACITOR 0.047U	1	
C1015		ECA1VXLV470	E.CAPACITOR 35V 47U	1	
C1017		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1018,19		ECEA1DFZ681	E.CAPACITOR 680U	2	
C1020		ECKD2H101KB	C.CAPACITOR 500V 100P	1	
C1021,22		ECEA1AFZ681	E.CAPACITOR 10V 680U	2	
C1023		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C1024		ECKF1H101KB	C.CAPACITOR 50V 100P	1	
C1025		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C1026		ECA0GXLV331	E.CAPACITOR 4V 330U	1	
C1027		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C1028		ECKF1H271KB	C.CAPACITOR 50V 270P	1	
D1001		S1WBA60S	DIODE	1	
D1002		AP01C	DIODE	1	
D1003		MA178	DIODE	1	
D1004		MA4200-H	DIODE	1	
D1006		RL4Z	DIODE	1	
D1007		31DQ04	DIODE	1	
D1008		MA723	DIODE	1	
IC1001		STRM6545LF	IC	1	<!>
IC1002		SI3120CA	IC	1	<!>
IC1003		TL431CLP	IC	1	
L1006		ELF18D290A	COIL 29UH	1	<!>
L1009		EXCELSA35	COIL	1	
L1011		VLQ0410	COIL	1	
L1012		VLQ0579	COIL	1	
L1013		VLP0083	COIL	1	
L1014		VLP0074	COIL	1	
P1001		VJP3091	CONNECTOR (MALE)	1	
Q1001		PS2561L1V1	TRANSISTOR	1	<!>
			RESISTORS		
R1001		ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
R1002		ERC12GM334	S.RESISTOR 1/2W 330K	1	
R1004		ERF2TK2R2	C.RESISTOR 1/4W 2.2	1	
R1005		ERG3SJ683	M.RESISTOR 3W 68K	1	
R1006,07		ERDS2FJ224	C.RESISTOR 1/4W 220K	2	
R1008		ERDS2FJ221	C.RESISTOR 1/4W 220	1	
R1009		EROS2CKG62R0	M.RESISTOR 1/4W 62.0	1	
R1010		EROS2CKG3001	M.RESISTOR 1/4W 3K	1	
R1011		EROS2CKF2701	C.RESISTOR 1/4W 2700P	1	
R1012		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1013		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1014		EROS2CKF2701	C.RESISTOR 1/4W 2700P	1	
R1015		EROS2CKG1502	M.RESISTOR 1/4W 15K	1	
R1016		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R1017		ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
R1018		ERDS2FJ101	C.RESISTOR 1/4W 100	1	
R1019		ERDS2FJ152	C.RESISTOR 1/4W 1.5K	1	
R1020		ERX1SJR82	M.RESISTOR 1W 0.82	1	
R1021,22		ERDS2FJ471	C.RESISTOR 1/4W 470	2	
R1023		ERDS1TJ395	C.RESISTOR 1/2W 3.9M	1	
R1024		ERDS1TJ475	C.RESISTOR 1/2W 4.7M	1	
T1001		VLT0692	TRANSFORMER	1	<!>
			MISCELLANEOUS		
		VMC0811	IC SUPPORT SPRING	1	
		VMZ1608	CAPACITOR TUBE	1	<!>
		VSC3778	HEAT SINK	1	
		VMZ1305	CAPACITOR COVER	2	<!>
		VMZ0965	CAPACITOR COVER	2	
		VEP01589B	P.C.BOARD W/COMPONENT		
			POWER (2)		
			CAPACITORS		
C1001		VCC0024	C.CAPACITOR	1	<!>
C1002,03		VCK0046	C.CAPACITOR	2	<!>
C1004		VCC0024	C.CAPACITOR	1	<!>
C1005,06		VCK0046	C.CAPACITOR	2	<!>
L1005		ELF18D221F	COIL 220UH	1	<!>
			MISCELLANEOUS		
		VMZ1608	CAPACITOR TUBE	2	<!>
		VJF0318	FUSE HOLDER	2	
		VMZ0965	CAPACITOR COVER	4	
		VEP00T75A	P.C.BOARD W/COMPONENT		
			BACK UP SUB		
BAT6301		VL2330/1HF	BATTERY	1	
P6301		VJP1230T	CONNECTOR (MALE)	1	
			MISCELLANEOUS		
		VGQ3373	BATTERY COVER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP03A77A	P.C.BOARD W/COMPONENT		
			VIDEO SUB		
			CAPACITORS		
C3201		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3202		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3203		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C3204		ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C3205,06		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	2	
C3207		ECEA1CKN220	E.CAPACITOR 16V 22U	1	
C3208		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3209		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3210		ECQP1H392JZ	P.CAPACITOR 50V 3900P	1	
C3211		ECEA1HKGR68	E.CAPACITOR 50V 0.68U	1	
C3212		ECQB1H152JF	P.CAPACITOR 50V 1500P	1	
C3213		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C3214		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3215		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C3216		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C3217		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C3218		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3219		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3220		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3221		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3222		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3223		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3224		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C3226		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3227		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3228		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3229		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3231		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3233		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3235		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3236		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3237		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3238,39		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3240		ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C3241		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3242		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3244		ECQB1H683JF	P.CAPACITOR 50V 0.068U	1	
C3245		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3246		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3252		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3253		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
CT3201		ECRLB030E12	TRIMMER 3P	1	
D3202		MA28WA	DIODE	1	
D3203-06		MA151K	DIODE	4	
D3207		MA3062M	DIODE	1	
D3208		8P2M	DIODE	1	
IC3201		AN3916	IC	1	
IC3202		AN3296S	IC	1	
IC3203		M35010-001SP	IC	1	
IC3204		MN1280P	IC	1	
IC3205		UPC78L05J	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L3201-03		VLQ0460	COIL	3	
L3204		VLQ0163J120	COIL 12UH	1	
L3205		VLQ0460	COIL	1	
P3201,02		VJS3186B018	CONNECTOR (FEMALE)	2	
Q3201		MSB709-R	TRANSISTOR	1	
Q3202-06		MSD601-R	TRANSISTOR	5	
Q3207		MSB709-R	TRANSISTOR	1	
			RESISTORS		
R3201,02		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3203		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3204		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R3205		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3206		ERJ6GEYJ564	M.RESISTOR CH1/16W 560K	1	
R3207		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3208		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3209		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R3210		ERJ6GEYJ753	M.RESISTOR CH1/16W 75K	1	
R3211		ERJ6GEYJ684	M.RESISTOR CH1/16W 680K	1	
R3212		ERJ6GEYG113	M.RESISTOR CH1/16W 11K	1	
R3213		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3214		ERJ6GEYG473	M.RESISTOR CH1/16W 47K	1	
R3215		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3216,17		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3218		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3219		ERJ6GEYJ681	M.RESISTOR CH1/16W 680	1	
R3220,21		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	2	
R3222		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3223		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3224		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3225-27		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	3	
R3228		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3230		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3231		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3232		ERJ6GEYJ153	M.RESISTOR CH1/16W 15K	1	
R3233		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
VR3201		EVN49CA00B54	V.RESISTOR 50K	1	
W33		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
W66-78		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	13	
X3201		VSX0574	CRYSTAL OSCILLATOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP04428A	P.C.BOARD W/COMPONENT		
		REAR JACK		
		CAPACITORS		
C6901-05	ECQB1H333JF	P.CAPACITOR 50V 0.033U	5	
D6901	MA165	DIODE	1	
D6903	MA165	DIODE	1	
J6901,02	VJS3154	CONNECTOR (FEMALE)	2	
J6903	VJJ0322	RCA JACK	1	
J6904	VJJ0323	RCA JACK	1	
J6905	VJH0735	TERMINAL	1	
P6901,02	VJP1410	CONNECTOR (MALE)	2	
QR6901	UN1211	TRANSISTOR-RESISTOR	1	
		RESISTORS		
R6901	ERDS2TJ750	C.RESISTOR 1/4W 75	1	
VR6901,02	EVND4AA00B15	V.RESISTOR 100K	2	
		MISCELLANEOUS		
	XTV3+8FFZ	SCREW	2	
	XTV3+10GFZ	SCREW	4	
	XTV4+8F	SCREW	1	
	XWC4BFY	WASHER	1	
	VEP04435A	P.C.BOARD W/COMPONENT		
		AUDIO		
		CAPACITORS		
C4801	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4802	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4804	ECEA1CU471	E.CAPACITOR 16V 470U	1	
C4805	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4806	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C4808	ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C4809	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4810	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4811	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C4812,13	ECEA16M10	E.CAPACITOR 16V 0.1U	2	
C4814	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4815	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4816	ECEA16M10	E.CAPACITOR 16V 0.1U	1	
C4818	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4819,20	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C4821	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4822	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4823,24	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4825	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4826	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4827-30	ECEA1CKA100	E.CAPACITOR 16V 10U	4	
C4831	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4832,33	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4834	ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C4835	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C4836	ECQB1H102JF	P.CAPACITOR 50V 1000P	1	
C4837	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4838	ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4839	ECQP1332JZ	P.CAPACITOR	1	
C4840	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4841	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4842	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4843	ECQB1H123JF	P.CAPACITOR 50V 0.012U	1	
C4845	ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	
D4801	11EQS04	DIODE	1	
D4802	MA723	DIODE	1	
D4803	MA165	DIODE	1	
IC4801	BA7766AS	IC	1	
IC4802	M52055FP	IC	1	
L4801	VLQEL05K101J	COIL 100UH	1	
L4802	VLQEL07F822J	COIL 8200UH	1	
L4803	VLQEL05K102J	COIL 1000UH	1	
P4801	VJS3186B018	CONNECTOR (FEMALE)	1	
P4803	VJS3186B018	CONNECTOR (FEMALE)	1	
Q4801	2SB710A-R	TRANSISTOR	1	
Q4802,03	2SD1149-R	TRANSISTOR	2	
Q4804	MSD601-R	TRANSISTOR	1	
Q4805	2SB710	TRANSISTOR	1	
Q4806	2SD639-R	TRANSISTOR	1	
Q4807	2SD1328-R	TRANSISTOR	1	
Q4808	MSB709-R	TRANSISTOR	1	
QR4801-03	MRN1404	TRANSISTOR-RESISTOR	3	
QR4804	MRN2404	TRANSISTOR-RESISTOR	1	
QR4805-08	MRN1404	TRANSISTOR-RESISTOR	4	
		RESISTORS		
R4801	ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4802	ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R4803,04	ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R4805	ERJ6GEYG223	M.RESISTOR CH1/16W 22K	1	
R4806	ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R4807	ERJ6GEYG181	M.RESISTOR CH1/16W 180	1	
R4811	ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R4813,14	ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	2	
R4815	ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R4816	ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4817		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R4818		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R4819		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4821		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R4822		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R4823		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R4824		ERJ6GEYJ334	M.RESISTOR CH1/16W 330K	1	
R4825		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4826		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R4827		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R4829		ERJ6GEYJ183	M.RESISTOR CH1/16W 18K	1	
R4830		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4831		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R4832		ERJ6GEYG392	M.RESISTOR CH1/16W 3.9K	1	
R4833		ERJ6GEYG303	M.RESISTOR CH1/16W 30K	1	
R4834		ERJ6GEYG103	M.RESISTOR CH1/16W 10K	1	
R4835		ERJ6GEYG104	M.RESISTOR CH1/16W 100K	1	
R4836		ERJ6GEYG473	M.RESISTOR CH1/16W 47K	1	
R4837		ERJ6GEYG104	M.RESISTOR CH1/16W 100K	1	
R4838		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R4839		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4840		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R4841,42		ERJ6GEYJ563	M.RESISTOR CH1/16W 56K	2	
R4843		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4844		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4845		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R4846		ERJ6GEYJ153	M.RESISTOR CH1/16W 15K	1	
R4847		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4848		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4849		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4850-52		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	3	
R4853		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R4854		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R4855		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R4856		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R4858		ERJ6GEYJ271	M.RESISTOR CH1/16W 270	1	
T4801		EIQ7QF014Q	TRANSFORMER	1	
W31-48		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	18	
		VEP05193A	P.C.BOARD W/COMPONENT		
			HEAD AMP		
			CAPACITORS		
C502		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C503		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C505-08		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C509		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C510,11		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C512		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C515,16		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C517,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C519,20		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C521		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C523-25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C526		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C527		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C540		ECEA1HKA010	E.CAPACITOR 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C567		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
IC501		AN3336SB	IC	1	
L501,02		VLQ0460	COIL	2	
P501		VJS3537B014G	CONNECTOR (FEMALE)	1	
P502		VJS3069	CONNECTOR (FEMALE)	1	
QR501		MRN2404	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R501		ERJ6GEYJ101	M.RESISTOR CH1/16W 100	1	
R502		ERJ6GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R503		ERJ6GEYG752	M.RESISTOR CH1/16W 7.5K	1	
R504		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R505		ERJ6GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R506		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R507		ERJ6GEYJ391	M.RESISTOR CH1/16W 390	1	
R508		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R509-12		ERJ6GEYJ470	M.RESISTOR CH1/16W 47	4	
R513		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R516		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R517		ERJ6GEYJ100	M.RESISTOR CH1/16W 10	1	
R526		ERJ6GEYG133	M.RESISTOR CH1/16W 13K	1	
R529-31		ERJ6GEYJ100	M.RESISTOR CH1/16W 10	3	
R568		ERJ6GEYJ271	M.RESISTOR CH1/16W 270	1	
R569		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
W20-24		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	5	
			MISCELLANEOUS		
		VSC3304	SHIELD CASE (MAIN)	1	
		VSC3768	SHIELD CASE (TOP)	1	
		VSC3770	SHIELD CASE (BOTTOM)	1	
		VEP06914C	P.C.BOARD W/COMPONENT		
			FRONT		
			CAPACITORS		
C6502		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6503		ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	
C6504		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6507		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6508		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C6509		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6510		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C6511		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6512,13		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6514		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6522		ECEA1AKA330	E.CAPACITOR 10V 33U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6524		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6526-28		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	3	
C6529		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6530,31		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6534,35		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6536		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6582-84		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	3	
C6851		ECQB1H123JF	P.CAPACITOR 50V 0.012U	1	
CT6501,02		ECRHA030E41	TRIMMER 3P	2	
D6501-08		MA151WA	DIODE	8	
D6510		MA151A	DIODE	1	
D6520-22		MA153	DIODE	3	
D6525		11EQS04	DIODE	1	
D6526		MA151A	DIODE	1	
DP6501		EDD063Y78A4P	DISPLAY TUBE	1	
IC6501		UPD75336C079	IC	1	
IC6503		VCR0172	IC	1	
IC6505		MN1382-H	IC	1	
IC6510		UPD6253GS	IC	1	
IC6511		MN1382-R	IC	1	
JK6850		VJJ0277	M2 JACK	1	
JK6852		VJJ0210	MIC JACK	1	
L6501		VLQEL05K121J	COIL 120UH	1	
LD6501		LN043572P	IC	1	
LD6502-05		LN81RCPHL	LED	4	
P6501		VJS3537A012G	CONNECTOR (FEMALE)	1	
P6502		VJS3537A020G	CONNECTOR (FEMALE)	1	
P6503		VJP3042A008W	CONNECTOR (MALE)	1	
P6850		VJS3042B008W	CONNECTOR (FEMALE)	1	
QR6501-04		MRN2402	TRANSISTOR-RESISTOR	4	
			RESISTORS		
R6509-12		ERJ6GEYJ681	M.RESISTOR CH1/16W 680	4	
R6513-16		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	4	
R6518		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6519		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R6520		VRE0034E392	M.RESISTOR CH 1/10W 3.9K	1	
R6521		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R6524		ERJ6GEYJ820	M.RESISTOR CH1/16W 82	1	
R6525		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6527		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R6528-30		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	3	
R6533		ERJ6GEYJ681	M.RESISTOR CH1/16W 680	1	
R6535		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6537-39		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	3	
R6540		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6550		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6551		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	1	
R6552-57		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	6	
R6558		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R6559		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6562-64		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	3	
R6565		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6568-71		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	4	
R6574,75		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R6579-82		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	4	
R6583		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6586		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6587		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6588		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6589		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R6590		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
SW6501-08		EVQQSB05G	SWITCH	8	
SW6509		EVQPAD09K	SWITCH	1	
SW6510-15		EVQQS307K	SWITCH	6	
SW6516		VSS0249	SWITCH	1	
SW6517		EVQQS307K	SWITCH	1	
SW6519		EVQQS307K	SWITCH	1	
X6501		VSX0140	CRYSTAL OSCILLATOR	1	
X6502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJF0948	CRT HOLDER	1	
		VMX0473	LED SPACER	4	
		VEP06915C	P.C.BOARD W/COMPONENT		
			MAIN		
			CAPACITORS		
C2001,02		ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C2003		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2004		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C2005		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2006		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2007		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2008		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C2009		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2010,11		ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	2	
C2012		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2013		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C2014		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2015		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2016		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2017		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C2018		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2019		ECEA1AKA330	E.CAPACITOR 10V 33U	1	
C2020		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C2021		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2022		ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C2023		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2024		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C2025		ECQB1H682JF	P.CAPACITOR 50V 6800P	1	
C2026		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2027		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C2301		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2302		ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C2303-06		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	4	
C2307		ECQB1H683JF	P.CAPACITOR 50V 0.068U	1	
C2308,09		ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	2	
C2310		ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C2311		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2312		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C2313		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2314		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2315		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2316		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2317-19		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	3	
C2320-23		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2325		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2326		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2329,30		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	2	
C2331		ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C2332		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2333		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2334		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2335		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C2336		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2337,38		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2339		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2340		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2341		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2342,43		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2344-46		ECEA1CU471	E.CAPACITOR 16V 470U	3	
C2347		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2348		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3002		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3003		ECQB1H153JF	P.CAPACITOR 50V 0.015U	1	
C3004,05		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C3006		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3007		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3008		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3009		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3010		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3011		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C3012		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3013		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3014		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3015		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3016		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C3017		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3018		ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C3046		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3047		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3048		ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C3049		ECEA1CPK470	E.CAPACITOR 16V 47U	1	
C3050		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3051		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C3052		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3053		ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C3054		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3055		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C3056		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3057		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3064		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3066,67		ECEA0JKN470	E.CAPACITOR 6.3V 47U	2	
C3068		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3069		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3070		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3071		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3079		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3084		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3096		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3501		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3502		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3503		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3504-07		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3508		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3509		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3510		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3511,12		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3513		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3516		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3517		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3518		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3519		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3520		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3521		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3522,23		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3524		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3525		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3527		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3528		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3529		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3530		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3531		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3532		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3534		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3535		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3536		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3537		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3541		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3542		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3543		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3544		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3546		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3547		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3548		ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C3549		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3550		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C3551		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3552		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3553		ECQB1H562JF	P.CAPACITOR 50V 5600P	1	
C3554		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C3555,56		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C3557		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3558		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3559		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C3560		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C3561		ECQB1H393JF	P.CAPACITOR 50V 0.039U	1	
C3563		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C3565		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C3566		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3567		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3568,69		ECQV1H184JZ	P.CAPACITOR 50V 0.18U	2	
C3570		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3571		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3572		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3573,74		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3581		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3582		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3583		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3584		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3588-90		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3593		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3594		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3596		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C4001		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C6001		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6004,05		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6006		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C6007		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6008		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6009		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C6010		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C6011		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6012		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C6013,14		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6016-23		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	8	
C6025-28		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	4	
C6029,30		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	2	
C6033		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6034		ECEA1CKA220	E.CAPACITOR 16V 22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6103,04		ECEA0JKA221	E.CAPACITOR 6.3V 220U	2	
C6105		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
D2001,02		MA151WK	DIODE	2	
D2301,02		11EQS04	DIODE	2	
D2303		MA151K	DIODE	1	
D2304,05		MA153	DIODE	2	
D2306		MA4062M	DIODE	1	
D3501		MA4091	DIODE	1	
D3502		MA151K	DIODE	1	
D3504		MA151K	DIODE	1	
D3508		MA151WA	DIODE	1	
D6001-06		MA151K	DIODE	6	
D6008		11EQS04	DIODE	1	
D6009		MA3120-M	DIODE	1	
D6010		MA151K	DIODE	1	
D6101		11EQS04	DIODE	1	
D6102		MA704	DIODE	1	
D6103		MA723	DIODE	1	
DL3003		VLD0125	DELAY	1	
DL3501		VLD0147	DELAY	1	
DL3503		VLD0153	DELAY	1	
FL3002		VLF0499	FILTER	1	
FL3003		VLF0878	FILTER	1	
FL3004		ELB4M022	FILTER	1	
FL3501		VLF0727	FILTER	1	
FL3502		VLF0299	FILTER	1	
IC2001		AN3727S	IC	1	
IC2002		MC14070BF	IC	1	
IC2003		TC7W00F	IC	1	
IC2004		LM358PS	IC	1	
IC2005		TC4S66F	IC	1	
IC2006		LM393PS	IC	1	
IC2301		AN3815K	IC	1	
IC2302		BA6439S	IC	1	
IC2303		MN1280-U	IC	1	
IC2304		LM393PS	IC	1	
IC2305,06		UPC4556G2	IC	2	
IC3001		VEFH03D	IC	1	
IC3005		NJM2233BMA	IC	1	
IC3501		MN74HC4053S	IC	1	
IC3502		MSM6965-3RS	IC	1	
IC3503		VEFH04F	IC	1	
IC6001		MN67434VMEB	IC	1	
IC6002		LM358PS	IC	1	
IC6003		BA6219B	IC	1	
IC6004		MN1280	IC	1	
IC6005		TC4W53F	IC	1	
IC6006		TC7W00F	IC	1	
J3002		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3004-07		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	4	
J3009		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3012,13		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
J3023		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3501		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3503		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3505		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J3507		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J4001,02		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
J6008,09		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
JG1		VEU2B220BB		1	
L2001-04		VLQ0460	COIL	4	
L2301		VLQ0460	COIL	1	
L2304		VLQ0460	COIL	1	
L2305		VLQEL05K102J	COIL 1000UH	1	
L3001		VLQEL05K680J	COIL 68UH	1	
L3002		VLQEL05K270J	COIL 27UH	1	
L3003		VLQ0460	COIL	1	
L3004		VLQEL05K820J	COIL 82UH	1	
L3005		VLQ0460	COIL	1	
L3012		VLQEL05K220J	COIL 22UH	1	
L3013		VLQ0460	COIL	1	
L3014		VLQEL05K2R2J	COIL 2.2UH	1	
L3018		VLQEL05K121J	COIL 120UH	1	
L3502		VLQEL05K820J	COIL 82UH	1	
L3503		VLQEL05K151J	COIL 150UH	1	
L3504-06		VLQ0460	COIL	3	
L3508		VLQEL05K151J	COIL 150UH	1	
L3509		VLQEL05K270J	COIL 27UH	1	
L3510		VLQEL05K470J	COIL 47UH	1	
L3511		VLQ0460	COIL	1	
L3514		VLQEL05K681J	COIL 680UH	1	
L3515,16		VLQ0460	COIL	2	
L3517		VLQEL05K6R8J	COIL 6.8UH	1	
L3518		VLQEL05K101J	COIL 100UH	1	
L3519		VLQEL05K120J	COIL 12UH	1	
L3520		VLQEL05K150J	COIL 15UH	1	
L3523		VLQEL05K681J	COIL 680UH	1	
L3524		VLQEL05K391J	COIL 390UH	1	
L3526		VLQEL05K560J	COIL 56UH	1	
L3531		VLQEL05K270J	COIL 27UH	1	
L3532		VLQEL05K5R6J	COIL 5.6UH	1	
L6002		VLP0083	COIL	1	
L6003		VLQ0460	COIL	1	
L6004-07		VLQEL05K221J	COIL 220UH	4	
LJ5		VEUDA055BBZ		1	
LJ6		VEUDA250BBZ		1	
LJ7		VEUDA290BBZ		1	
P2301		VJP3078	CONNECTOR (MALE)	1	
P2302		VJS3537A015G	CONNECTOR (FEMALE)	1	
P2303		VJP3529	CONNECTOR (MALE)	1	
P3501		VJS3537A014G	CONNECTOR (FEMALE)	1	
P4001		VJP3186A018W	CONNECTOR (MALE)	1	
P4003		VJP3186A018W	CONNECTOR (MALE)	1	
P4004		VJS2329	CONNECTOR (FEMALE)	1	
P6001		VJS3537A013G	CONNECTOR (FEMALE)	1	
P6002		VJP1229T	CONNECTOR (MALE)	1	
P6003		VJP3079	CONNECTOR (MALE)	1	
P6004		VJS3537A012G	CONNECTOR (FEMALE)	1	
P6005		VJS3537A020G	CONNECTOR (FEMALE)	1	
P6007,08		VJS1410	CONNECTOR (FEMALE)	2	
P6101,02		VJP3186A018W	CONNECTOR (MALE)	2	
Q3001		MSB709-R	TRANSISTOR	1	
Q3010		MSB709-R	TRANSISTOR	1	
Q3012		MSD601-R	TRANSISTOR	1	
Q3013		2SA1022-B	TRANSISTOR	1	
Q3014		MSC2295-B	TRANSISTOR	1	
Q3501,02		MSD601-R	TRANSISTOR	2	
Q3503,04		MSC2295-B	TRANSISTOR	2	
Q3505,06		MSB709-R	TRANSISTOR	2	
Q3507		MSD601-R	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3508		2SB642	TRANSISTOR	1	
Q3509		2SB643	TRANSISTOR	1	
Q3510		MSC2295-B	TRANSISTOR	1	
Q3511		MSD601-R	TRANSISTOR	1	
Q3512		MSC2295-B	TRANSISTOR	1	
Q3514,15		MSD601-R	TRANSISTOR	2	
Q3516		MSC2295-B	TRANSISTOR	1	
Q3517,18		MSB709-R	TRANSISTOR	2	
Q6001		MSB709-R	TRANSISTOR	1	
Q6003		MSD601-R	TRANSISTOR	1	
Q6004		2SD601A	TRANSISTOR	1	
Q6101		2SB644-S	TRANSISTOR	1	
QR2001		XN1213	TRANSISTOR-RESISTOR	1	
QR2301		MRN2404	TRANSISTOR-RESISTOR	1	
QR2302		MRN1404	TRANSISTOR-RESISTOR	1	
QR3002		XN1213	TRANSISTOR-RESISTOR	1	
QR3008		MRN2404	TRANSISTOR-RESISTOR	1	
QR3011,12		MRN1403	TRANSISTOR-RESISTOR	2	
QR3015		MRN1404	TRANSISTOR-RESISTOR	1	
QR3501		MRN1404	TRANSISTOR-RESISTOR	1	
QR3505		MRN1402	TRANSISTOR-RESISTOR	1	
QR3506		MRN2402	TRANSISTOR-RESISTOR	1	
QR3507		DTC363EK	TRANSISTOR-RESISTOR	1	
QR3508		MRN1403	TRANSISTOR-RESISTOR	1	
QR3509,10		XN1213	TRANSISTOR-RESISTOR	2	
QR3514		DTC363EK	TRANSISTOR-RESISTOR	1	
QR3515		MRN1403	TRANSISTOR-RESISTOR	1	
QR6001		XN1211	TRANSISTOR-RESISTOR	1	
QR6003		MRN1402	TRANSISTOR-RESISTOR	1	
QR6004		MRN1404	TRANSISTOR-RESISTOR	1	
QR6005		XN1213	TRANSISTOR-RESISTOR	1	
QR6007		XN1213	TRANSISTOR-RESISTOR	1	
QR6008		MRN1404	TRANSISTOR-RESISTOR	1	
QR6101		MRN1402	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R2001		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R2002		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R2003		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R2004		ERJ6GEYJ563	M.RESISTOR CH1/16W 56K	1	
R2005,06		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R2007		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R2008		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R2009		ERJ6GEYG622	M.RESISTOR CH1/16W 6.2K	1	
R2011,12		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	2	
R2013,14		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R2015		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2016		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	1	
R2017		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R2018-20		ERJ6GEYG223	M.RESISTOR CH1/16W 22K	3	
R2021		ERJ6GEYG333	M.RESISTOR CH1/16W 33K	1	
R2022		ERJ6GEYG224	M.RESISTOR CH1/16W 220K	1	
R2023		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2024,25		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R2029		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2301		ERDS2TJ150	C.RESISTOR 1/4W 15	1	
R2302		ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2303,04		ERDS2TJ150	C.RESISTOR 1/4W 15	2	
R2305		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2306		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R2307,08		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	2	
R2309		ERJ6GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R2310		ERJ6GEYG432	M.RESISTOR CH1/16W 4.3K	1	
R2311		ERJ6GEYJ684	M.RESISTOR CH1/16W 680K	1	
R2312		ERJ6GEYG473	M.RESISTOR CH1/16W 47K	1	
R2313		ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2314		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2315		ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R2316		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2317		ERDS2TJ330	C.RESISTOR 1/4W 33	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2318		ERJ6GEYJ681	M.RESISTOR CH1/16W 680	1	
R2321		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2322		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	1	
R2323		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2324		ERJ6GEYJ224	M.RESISTOR CH1/16W 220K	1	
R2325-28		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	4	
R2329,30		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	2	
R2331		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R2332		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R2333		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R2334		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R2335		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R2336		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R2337		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2338		ERJ6GEYJ105	M.RESISTOR CH1/16W 1M	1	
R2339		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R2340		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R2341		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2342,43		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3004		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3005		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3006		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3007		ERJ6GEYF124	M.RESISTOR CH1/16W 120K	1	
R3008		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3009		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R3010		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3011		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3012		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3013		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3014		ERJ6GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3015		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3017,18		ERJ6GEYJ331	M.RESISTOR CH1/16W 330	2	
R3019		ERJ6GEYJ750	M.RESISTOR CH1/16W 75	1	
R3020,21		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3036		ERJ6GEYG471	M.RESISTOR CH1/16W 470	1	
R3041		ERJ6GEYG102	M.RESISTOR CH1/16W 1K	1	
R3052		ERJ6GEYJ391	M.RESISTOR CH1/16W 390	1	
R3053		ERJ6GEYJ101	M.RESISTOR CH1/16W 100	1	
R3054		ERJ6GEYJ824	M.RESISTOR CH1/16W 820K	1	
R3055,56		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3057		ERJ6GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3058		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3066,67		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R3068,69		ERJ6GEYG911	M.RESISTOR CH1/16W 910	2	
R3070		ERJ6GEYG112	M.RESISTOR CH1/16W 1.1K	1	
R3071		ERJ6GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R3072		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R3073		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3074		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3075		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R3076		ERJ6GEYG681	M.RESISTOR CH1/16W 680	1	
R3077		ERJ6GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3079		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3085		ERJ6GEYG112	M.RESISTOR CH1/16W 1.1K	1	
R3088		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3089		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3090		ERJ6GEYG432	M.RESISTOR CH1/16W 4.3K	1	
R3094		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3112		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3118,19		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R3501,02		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3503		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3504		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3505,06		ERJ6GEYJ122	M.RESISTOR CH1/16W 1.2K	2	
R3507		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3508,09		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	2	
R3510		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3511		ERJ6GEYJ330	M.RESISTOR CH1/16W 33	1	
R3512		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3513		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3514		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3515-18		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	4	
R3519		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3520		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3521		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3522		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3523		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3524		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3525		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3526		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3527		ERJ6GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3528		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3529		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3530		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R3533		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3534		ERJ6GEYJ330	M.RESISTOR CH1/16W 33	1	
R3535,36		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R3537		ERJ6GEYJ820	M.RESISTOR CH1/16W 82	1	
R3538		ERJ6GEYG680	M.RESISTOR CH1/16W 68	1	
R3539		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3540		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3542		ERJ6GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R3543		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3544,45		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3547		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3548		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3549		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3550		ERJ6GEYJ330	M.RESISTOR CH1/16W 33	1	
R3551		ERJ6GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R3552		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R3553		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3554		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R3555		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3556		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R3557		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3560		ERJ6GEYJ821	M.RESISTOR CH1/16W 820	1	
R3561		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R3562		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3564		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3565		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3566		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3567		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3568,69		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3572		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3574		ERJ6GEYJ271	M.RESISTOR CH1/16W 270	1	
R3575		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3576		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3577		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3578		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R3579		ERJ6GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3580		ERJ6GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3581		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3582		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3585		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3588		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3590		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3591		ERJ6GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3592		ERJ6GEYG621	M.RESISTOR CH1/16W 620	1	
R3593		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R3596		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3600,01		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3605		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3606		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3613		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4001		ERJ6GEYJ561	M.RESISTOR CH1/16W 560	1	
R4003		ERJ6GEYJ100	M.RESISTOR CH1/16W 10	1	
R4004		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R6001		ER0S2CKG2000	M.RESISTOR 1/4W 200	1	
R6002		ERJ6GEYJ271	M.RESISTOR CH1/16W 270	1	
R6003,04		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	2	
R6005		ERJ6GEYG244	M.RESISTOR CH1/16W 240K	1	
R6006		ERJ6GEYJ153	M.RESISTOR CH1/16W 15K	1	
R6007		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R6008		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6009		ERJ6GEYG112	M.RESISTOR CH1/16W 1.1K	1	
R6010		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6011		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6012		ERJ6GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R6013		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R6014		ERJ6GEYJ564	M.RESISTOR CH1/16W 560K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6015		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R6016		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6017		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6018		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R6019		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R6020,21		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	2	
R6022		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6023		ERJ6GEYJ683	M.RESISTOR CH1/16W 68K	1	
R6024-26		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	3	
R6027		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6028-34		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	7	
R6035		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6036-38		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	3	
R6039		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R6040		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R6041		ERJ6GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R6042		ERJ6GEYJ221	M.RESISTOR CH1/16W 220	1	
R6045		ERJ6GEYJ333	M.RESISTOR CH1/16W 33K	1	
R6047		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R6048		ERJ6GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6049		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R6052,53		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	2	
R6056,57		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	2	
R6058		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6059		ERJ6GEYJ471	M.RESISTOR CH1/16W 470	1	
R6060		ERJ6GEYJ273	M.RESISTOR CH1/16W 27K	1	
R6061		ERJ6GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R6062,63		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	2	
R6065		ERJ6GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6067		ERJ6GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R6068		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R6070		ERJ6GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6101		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R6102		ER0S2CKG1400	C.RESISTOR 1/4W 140P	1	
R6103		ERJ6GEYG271	M.RESISTOR CH1/16W 270	1	
R6104		ERDS2TJ121	C.RESISTOR 1/4W 120	1	
R6105		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6114		ERJ6GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
VR2001		EVMF6SA00B23	V.RESISTOR 2K	1	
VR2002-08		EVMF6SA00B15	V.RESISTOR 100K	7	
VR3501		EVMF6SA00B23	V.RESISTOR 2K	1	
VR3502		EVMF6SA00B14	V.RESISTOR 10K	1	
VR3503		EVMF6SA00B52	V.RESISTOR 500	1	
VR3504,05		EVMF6SA00B53	V.RESISTOR 5K	2	
VR3506		EVMF6SA00B52	V.RESISTOR 500	1	
VR4001		EVMF6SA00B54	V.RESISTOR 50K	1	
VR4006		EVMF6SA00B54	V.RESISTOR 50K	1	
W1-W9		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	9	
W10-21		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	12	
X3501		VSX0225	CRYSTAL OSCILLATOR	1	
X3502		VSX0162	CRYSTAL OSCILLATOR	1	
X6001		VSX0296	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VKC0295	P.C.B. SPACER	2	
		VKC0421	HINGE	3	
		VKC0422	SPACER	2	
		VMC0075	HEAT SINK SPRING	1	
		VSC3405	HEAT SINK	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP00S63C	P.C.BOARD W/COMPONENT	1	
			MECHANISM CONNECTION		
IC1501,02		ON1387	IC	2	
P1503		VJS3316A002	CONNECTOR	1	
P1504		VJS3317A004	CONNECTOR	1	
P1505		VJS3493	CONNECTOR	1	
SW1501		VES0695	SWITCH	1	

! Warning
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advice non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service manual by anyone else could result in serious injury or death.

Order No. VSD9504S238
D2

Service Manual

Supplement

NTSC / PAL Video Product

Subject :Addition of Barrier Angle

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-1070DCP	4	VSD9409M253	D5-----
AG-6124P	3	VSD9409M253	D5-----
AG-5210P	7	VSD9401M241	D5-----
AG-6124E/B	6	VSD9406M635	D5-----
AG-1070DCE	4	VSD9411M638	D5-----
AG-5260E/B	6	VSD9404M633	D5-----

Symptom : Tape eject and tape insertion may not be performed smoothly.

Cause : The ribbon cables from connectors P6001, P2302 and P6005 on the main C.B.A. may interfere with the cassette front cover.

Remedy : In order to prevent this symptom, the following barrier angle has been added on the right / rear comer of the front loading unit.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
251	----------	VMP4662	BARRIER ANGLE	1	E	
B14		XTB26+8G	SCREW	2	E	

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Order No. VSD9608S602

Service Manual

Supplement

Video Product

Subject : Improvement of E-E Y Level Precision

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-6124E [illegible]	9	VSD9406M635	I6-----
AG-1070DCE	7	VSD9411M638	I6-----

Board: MAIN

Symptom : The E-E Y output level may be out of specification.

Remedy : In order to improve this symptom, the following resistors and variable resistor in the parts list have been changed.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
R3085	ERJ6GEYG102	VRE0034E821	M.RESISTOR CH 1/10W 820	1	C	
R3036	ERJ6GEYG471	VRE0034E471	M.RESISTOR CH 1/10W 470	1	C	
R3076	ERJ6GEYG681	VRE0034E681	M.RESISTOR CH 1/10W 680	1	C	
R3071	ERJ6GEYJ122	ERJ6GEYG122	M.RESISTOR CH 1/10W 1.2K	1	C	
R3013	ERJ6GEYJ222	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	C	
R3073	ERJ6GEYJ561	VRE0034E561	M.RESISTOR CH 1/10W 560	1	C	
R3019	ERJ6GEYJ750	ERJ6GEYG750	M.RESISTOR CH 1/10W 75	1	C	

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Order No. VSD9608S603
D

Service Manual

Supplement

Video Product

Subject : Change of Capacitor

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-7150-E/B	50	VSD9109M615	A5----
AG-7350-E/B	53	VSD9109M615	A5----
AG-7355-E/B	38	VSD9110M616	A5----
AG-6040E	30	VSD9209M625	A5----
AG-6730E	34	VSD9212M628	A5----
AG-6045E	5	VSD9501M640	A5----
AG-5700-E	18	VSD9202M619	A5----
AG-MD830E	15	VSD9408M637	A5----
AG-6840HE/B	32	VSD9004M602	A5----
AG-6850H-E/B	32	VSD9006M603	A5----
AG-6124E/B ✓ [illegible]	9	VSD9406M635	A5----
AG-5260E/B	9	VSD9404M633	A5----
AG-7600E	8	VSD9502M642	A5----
AG-7700E	12	VSD9502M642	A5----
AG-8600E	6	VSD9512M601	A5----
AG-8700E	6	VSD9512M601	A5----

Board: POWER

Reason for Change

☐ The following part(s) has(have) been changed for serviceability improvement.
☐ The following part(s) has(have) been changed for productivity improvement.
☐ The following part(s) has(have) been changed for standardization.
■ The following part(s) has (have) been changed for the safety regulation.
☐

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nterchangeability Code (I/C)

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E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
C1008	VCK0041	VCK0259K331A	CAPACITOR	1	C	AG-7150/7350/7355-E/B
C1045	VCK0041	VCK0259K331A	CAPACITOR	1	C	AG-7150/7350/7355-E/B
C1003-5	VCK0040	VCK0259K221A	CAPACITOR	3	C	AG-7150/7350/7355-E/B
C1005	VCK0046	VCK0260K222A	CAPACITOR	1	C	AG-6040/6730/6045E
C1010	VCK0046	VCK0260K222A	CAPACITOR	1	C	AG-6040/6730/6045E
C10038	VCK0046	VCK0260K222A	CAPACITOR	1	C	AG-6040/6730/6450E
C1001-3	VCC0046	VCK0260K222A	CAPACITOR	3	C	AG-6040/6730/6450E
C1006	VCC0046	VCK0260K222A	CAPACITOR	1	C	AG-6040/6730/6450E
C1036	VCC0046	VCK0260K222A	CAPACITOR	1	C	AG-6040/6730/6450E
C1037	VCC0024	VCK0262K222A	CAPACITOR	1	C	AG-6040/6730/6450E
C1002-3	VCK0083	VCK0260M332A	CAPACITOR	2	C	AG-MD830E/B
C1004-5	VCK0043	VCK0259M102A	CAPACITOR	2	C	AG-MD830E/B
C1102-5	VCK0083	VCK0260M332A	CAPACITOR	4	C	AG-5700-E
C1003-4	VCK0046	VCK0260K222A	CAPACITOR	2	C	AG-6840H/6850HE
C1005	VCK0046	VCK0260K222A	CAPACITOR	1	C	AG-6840H/6850HE
C1027-28	VCK0045	VCK0260K152A	CAPACITOR	2	C	AG-6840H/6850HE
C1029	VCK0045	VCK0260K152A	CAPACITOR	1	C	AG-6840H/6850HE
C1010	VCC0024	VCK0262M222A	CAPACITOR	1	C	AG-5260E/B
C1011	VCC0046	VCK0260M222A	CAPACITOR	1	C	AG-5210E/B
C1012	VCC0046	VCK0260M222A	CAPACITOR	1	C	AG-5210E/B
C1010	VCC0024	VCK0262M222A	CAPACITOR	1	C	AG-6124/5260E/B
C1011-12	VCK0046	VCK0260M222A	CAPACITOR	2	C	AG-6124/5260E/B
C1001	VCC0024	VCK0262M222A	CAPACITOR	1	C	AG-6124/5260E/B
C1002-3	VCC0046	VCK0260M222A	CAPACITOR	2	C	AG-6124/5260E/B
C004	VCC0024	VCK0262M222A	CAPACITOR	1	C	AG-6124/5260E/B
C1005-6	VCC0046	VCK0260M222A	CAPACITOR	2	C	AG-6124/5260E/B
C1001-2	VCK0083	VCK0260M332A	CAPACITOR	2	C	AG-7600/7700/8600/8700E
C1004-5	VCK0044	VCK0260M102A	CAPACITOR	2	C	AG-7600/7700/8600/8700E

V11494 ✓
✓ 114 54

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Order No. VSD9611S603
D2

Service Manual

Supplement

PAL **Video Product**

Subject : Change of Cylinder Unit and Upper Cylinder

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-6124E	8	VSD9406M635	D6-----
AG-1070DCE	6	VSD9411M638	D6-----

BOARD: MAIN

Reason for Change

☐ The following part(s) has(have) been changed for serviceability improvement.
☐ The following part(s) has(have) been changed for productivity improvement.
■ The following part(s) has(have) been changed for standardization.
☐ The following part(s) has (have) been changed for the safety regulation.
☐

1. More details information such as schematic diagram P.C. Board layout and parts list of the new board will be issued soon as supplement service manual.
2. "U" indication has been added on the model number plate on the rear panel with the unit has new type cylinder.
3. The new cylinder unit, upper cylinder and main P.C.Board can not feted on a unit which has the original cylinder unit, upper cylinder and main P.C.Board

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
70	VEG1138	VEG1221	CYLINDER UNIT	1	D	FOR AG-6124E/1070DCE
71	VEH0656	VEH0715	UPPER CYLINDER	1	D	FOR AG-6124E/1070DCE
	VEP06915C	VEP06B33B	MAIN C.B.A.	1	D	FOR AG-6124E
	VEP06915H	VEP06B33C	MAIN C.B.A.	1	D	FOR 1070DCE

TE2-4469, TE2-4471

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Upper Cylinder Removal

1. Remove the earth plate with the cable from the cylinder stator P.C.Board. (Figure M1-1)

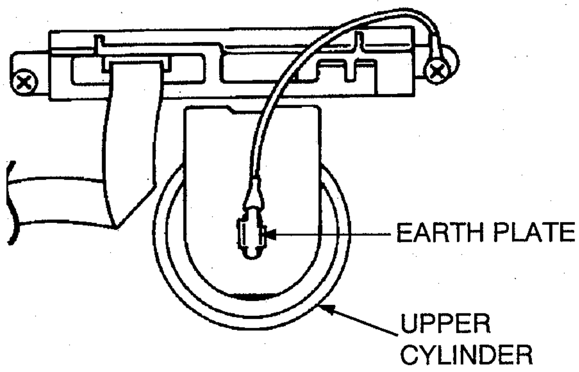
EARTH PLATE
UPPER CYLINDER

Fig. M1-1

2. Unscrew 2 screws (A) so that the cylinder stator unit can be removed from the cylinder unit. (Figure M1-2)

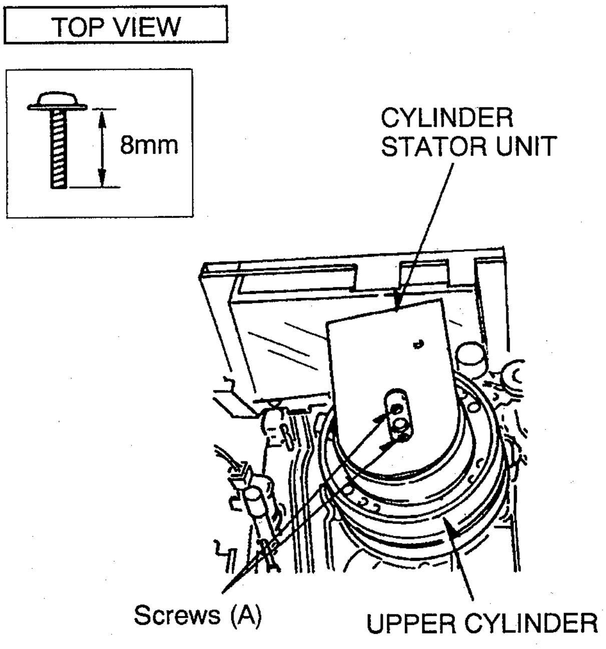
TOP VIEW
8mm
CYLINDER STATOR UNIT
Screws (A)
UPPER CYLINDER

Fig.M1-2

3. Unscrew 2 screws (B) so that the cylinder rotor unit can be removed. (Figure M1-3)
4. Loosen the hex screw (C) in the cylinder retainer by using a 1.5mm hex wrench so that the cylinder retainer and upper cylinder unit can be lifted and removed. (Figure 1-4)

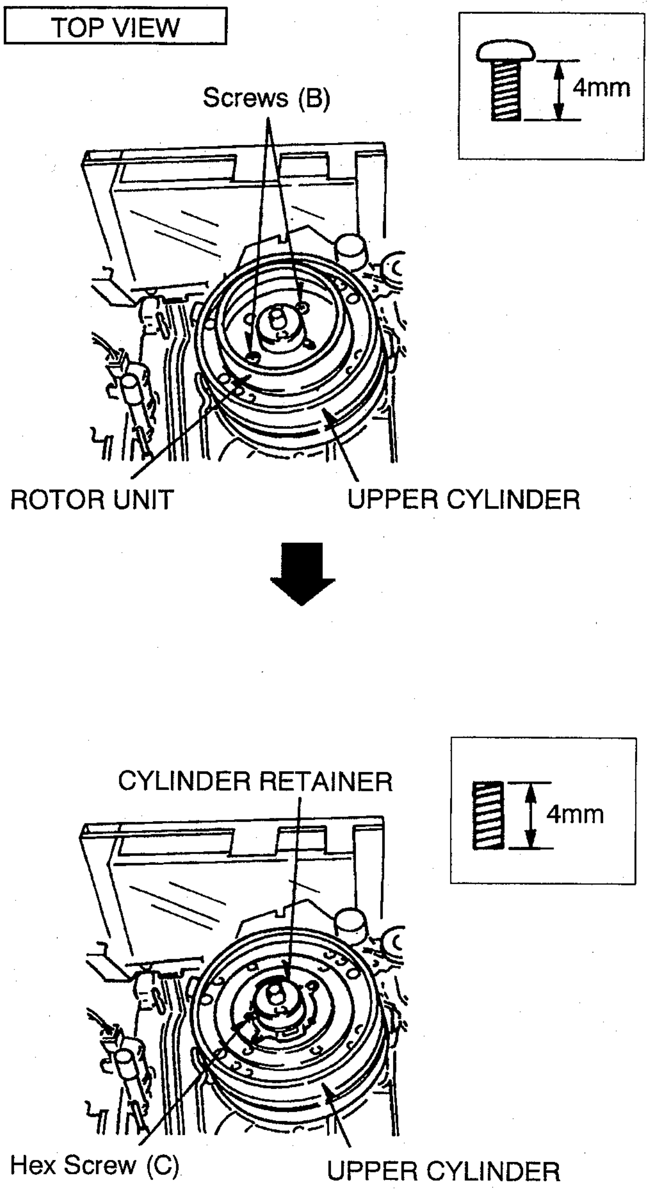
TOP VIEW
4mm
Screws (B)
ROTOR UNIT
UPPER CYLINDER
CYLINDER RETAINER
4mm
Hex Screw (C)
UPPER CYLINDER

Fig. M1-3

UPPER CYLINDER INSTALLATION

1. Install the upper cylinder unit and retainer.
2. Adjust the position of the retainer so that the 2 screw holes on the retainer becomes as shown Figure M2-1.
3. Tighten 2 screws (C) while strongly pressing down the retainer. (Figure M2-2)
(If the pressing force is not enough, the tape interchangeability may be out of specification and the life of upper cylinder becomes shorten.)

9611$603

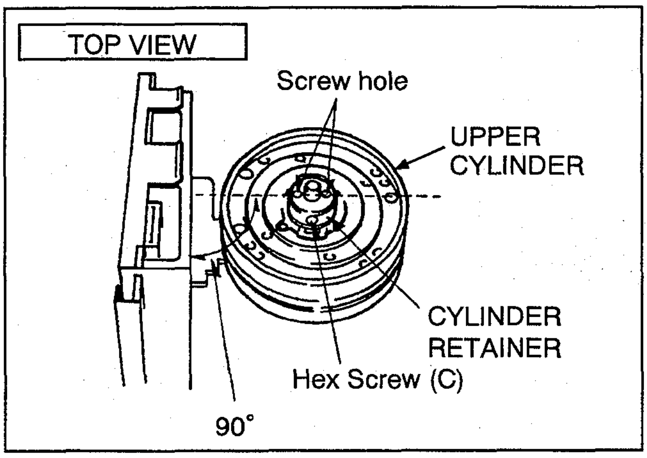
TOP VIEW
Screw hole
UPPER CYLINDER
CYLINDER RETAINER
Hex Screw (C)
90°

Fig. M2-1

4. Place the cylinder rotor unit so that the inner U cut of cylinder rotor unit and the projection on the upper cylinder are fit each other. (Figure M2-2)
5. Screw 2 screws (B). (Figure M2-3)

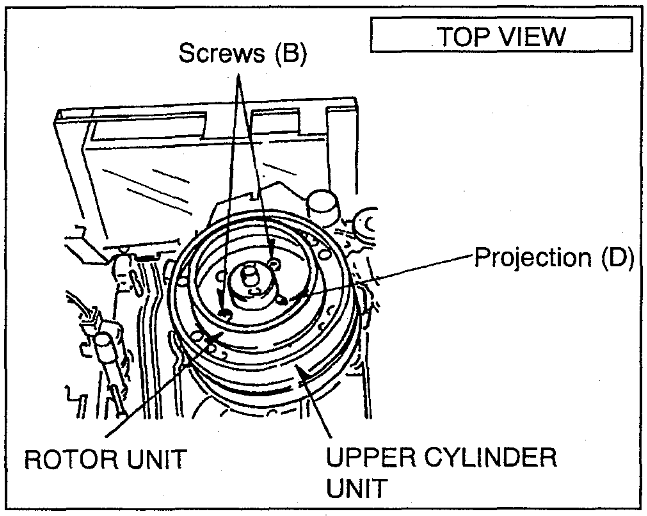
Screws (B)
TOP VIEW
Projection (D)
ROTOR UNIT
UPPER CYLINDER UNIT

Fig.M2-2

6. Install the cylinder stator unit and tighten 2 screws (A).

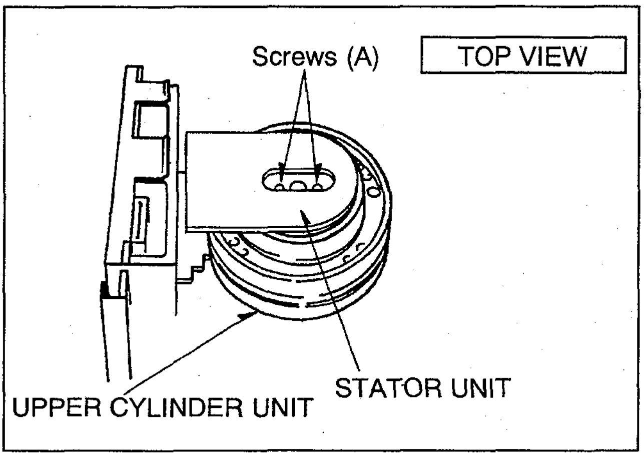
Screws (A)
TOP VIEW
UPPER CYLINDER UNIT
STATOR UNIT

Fig. M2-3

7. After completion of the upper cylinder unit, perform “Tape Interchangeability Adjustment” , “ PG Shifter Adjustment” and “Play Frequency Response Adjustment.

V1[illegible]

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Order No. VSD9811S606

Service Manual

Supplement

PAL

Video Product

Subject : Alarm input failure

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.		Order No.		Effective from
AG-1070DCE	13	V11484	VSD8810M608	1038063	K8—
AG-6124E	16	V11454	VSD9406M635	- " -	K8—
AG-6124B	16	- " -	VSD9406M635	- " -	K8—

Board: FRONT P.C.Board.(VEP06914C)
REAR JACK P.C.Board (VEP04428A)

Symptom : 1. When the alarm input causes chattering while in the manual alarm mode, alarm REC fails even if alarm is input.
2. Instantaneous power supply interrupt occurs depending on LED lighting timing.
Recording starts after recovery of power supply.
3. If two or more alarm resets are input during course of returning from alarm REC to the previous mode, the next alarm will be reset.

Cause : Symptom 1 or 3: Caused by software failure.

Remedy : 1. Added a capacitor on FRONT P.C.Board.
C6225 is added ECEA1CK100 on the foil side.
2. Added a capacitor on REAR JACK P.C.Board.
C6906 is added ECEA0JKA221 on the foil side.
C6907 is added ECEA1CKA100 on the foil side.

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C6525	----	ECEA1CKA100	E. CAPACITOR 16V 10U	1	FRONT P.C.Board.(VEP06914C)
C6906	----	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	REAR JACK P.C.Board (VEP04428A)
C6907	----	ECEA1CKA100	E. CAPACITOR 16V 10U	1	REAR JACK P.C.Board (VEP04428A)

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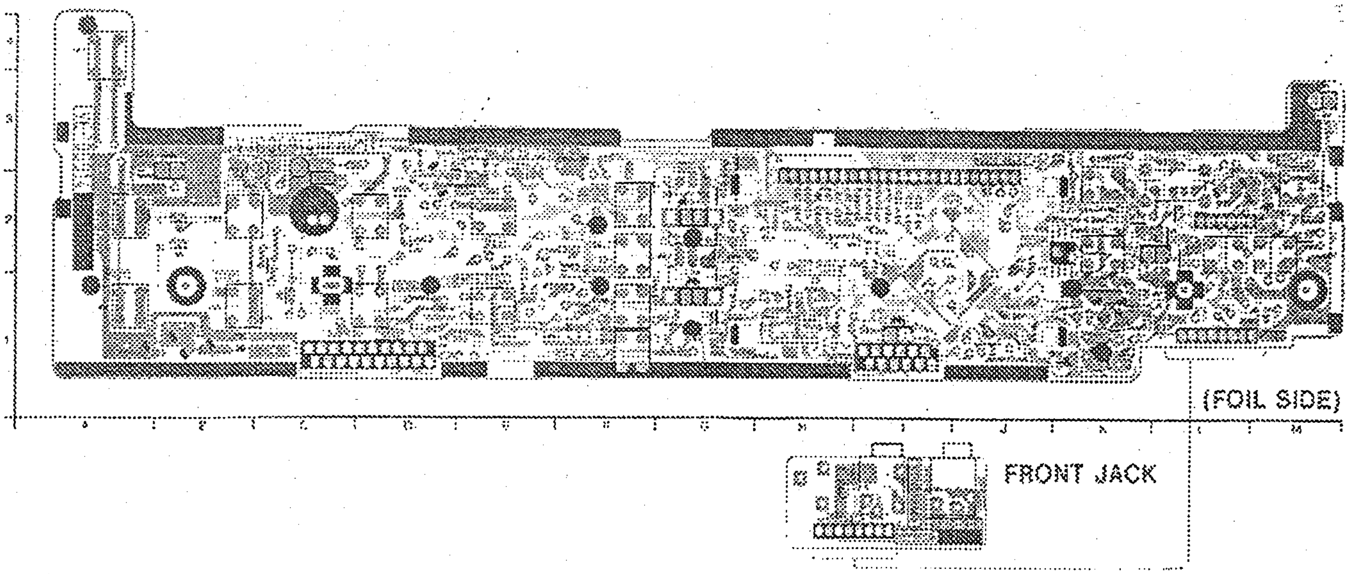
1) FRONT P.C. Board is changed

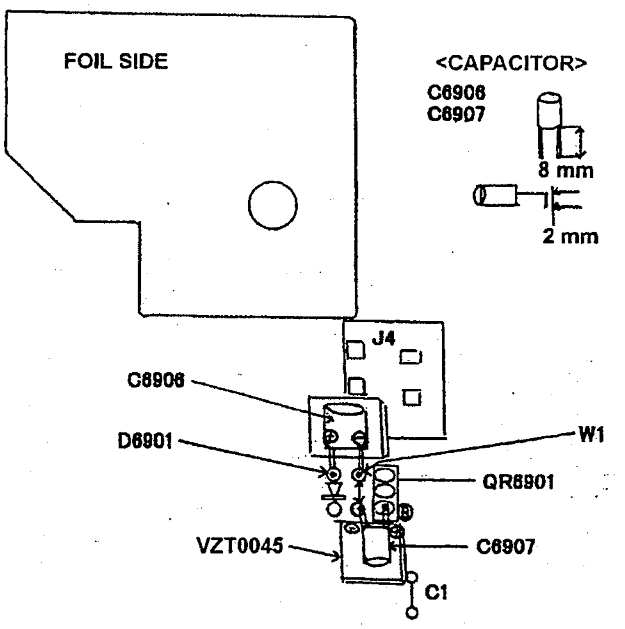
Add a capacitor (ECEACK100) to C6525 (not fixed)


(FOIL SIDE)
FRONT JACK

2) READ JACK P.C. Board is changed

1) The C6906 (+) side is soldered to the D6901 (A) SIDE. The C6906 (-) side is soldered to the W1.
2) The C6907 (+) side is soldered to the QR6901 (B) SIDE. The C6907 (-) side is soldered to the W1.
3) After the C6906 and C6907 is soldered, they are fixed by the VZT0045.

* Prepare the capacitor for foil side as shown below.
In case of VEP04428


FOIL SIDE
<CAPACITOR>
C6906
C6907
8 mm
2 mm
J4
C6906
D6901
W1
QR6901
VZT0045
C6907
C1

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Order No. VSD9811S608

Service Manual

Supplement

PAL

Video Product

Subject : Changing Barrier Angle

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.		Order No.		Effective from
AG-1070DCE	14	V11434	VSD9411M638	1038063	K8—
AG-5260E	17		VSD9404M683	–	K8—
AG-6124E	17	V11434	VSD9406M635	1038063	K8—
AG-5260B	17	V01461	VSD9404M633	1014124	K8—
AG-6124B	17	V11434	VSD9406M635	1038063	K8—

Symptom : Very rarely, the flexible cable on the main P.C.Board hits a snag while the cassette is being inserted or ejected.

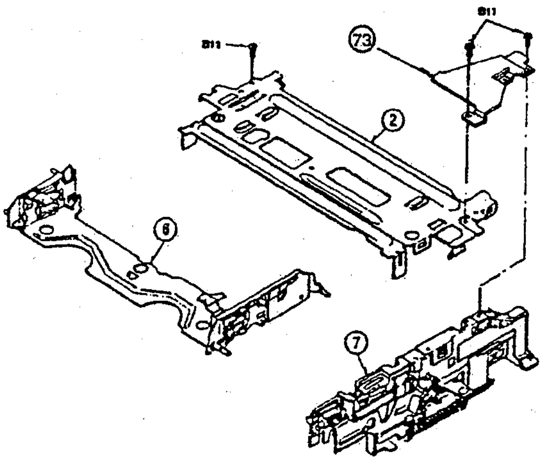
Cause : The Barrier Angle is not large enough to cover whole flexible cable.

Remedy : Change the Barrier Angle.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Description	Pcs	Remarks
73	VMP4662	VMP6008	Barrier Angle	1	

Change the Barrier Angle with newly designed one (see the figure right).

73 : Barrier Angle (VMP6008)
2 : TOP PLATE (VMA8644)
6 : CASSETTE HOLDER PLATE UNIT (VXA4661)
7 : SIDE PLATE (R) UNIT (VXA4806)



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ORDER NO. VSD9402M632

Service Manual

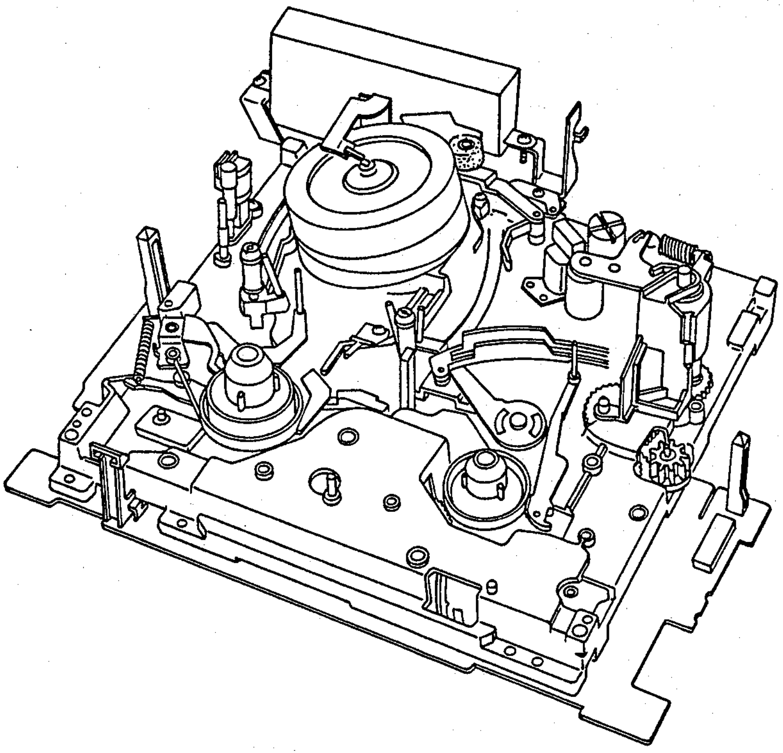
Sec. 1 *General Information*
Sec. 2 *Maintenance Procedures*
Sec. 3 *Mechanical Adjustment Procedur*
Sec. 4 *Assembly & Phase Adjustment Procedure*

V16026

Video Cassette Recorder

VHS
PAL

K-MECHANISM



IMPORTANT

The K-MECHANISM chassis are built in several Panasonic SVHS／VHS Video Cassette Recorder.
Thus, Properly file this service manual with the service manual of the relative video cassette recorder.

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INTRODUCTION

This Service Manual contains the technical information which service personnel to understand and service the K-Mechanism.
The Maintenance Chart, Mechanical Parts List and Mechanical Specification, please refer to the service manual of each model.

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SECTION 1
GENERAL INFORMATION

The K mechanism maintains the same high performance as G2 mechanism but with a smaller quantity of mounted parts, 40% less than G2 mechanism.

1-1. FEATURE of K MECHANISM

1-1-1. Parts Reduction

<K Mechanism>

a. Reduction in the number of drive parts through the use of a single motor to perform front loading and unit loading.
b. Direct drive of brakes and loading gears with the multi-function main lever.
c. Elimination of sub lever and solenoids.

<Front Loading Unit>

a. Elimination of a slide switch, to reduce wiring.
b. Elimination or combining the joint parts.
c. Smaller and thinner the top plate and rack parts.

1-1-2. No Adjustment of the following is required.

a. Take-up inclined position.
b. P5 Post height.

1-1-3. Reduced Gear Phase Position Alignments

The K Mechanism has only 6 gear phase alignment positions and G2 mechanism has 12 gear phase alignment positions.

1-2. OPERATION of K-MECHANISM

The K mechanism has two motors, the loading motor and capstan motor. The loading motor operates the front loading/unloading and tape loading/unloading. The capstan motor operates each mode.
The bottom C.B.A. connects the mechanism to the system control circuit. On the bottom C.B.A. there are take-up and supply photo-sensors, Sensor LED, Mode Switch Connector, Safety Tab Switch, Supply and Take-up Reel Sensors and Loading Motor Connector. All sensor information sent to the system control circuit.

1-3. EMERGENCY CASSETTE REMOVAL

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to removing cassette manually.
There are 2 methods of removing the cassette.

A. Battery Operation

1. Remove the bottom plate.
2. Connect the battery (Manganese-Type (AA)(R6) 3pcs./+4.5V) to P1503 as shown in Fig.G1.
3. After moving the loading post to the unloaded position, disconnect the battery to stop the loading motor.
4. Turn the capstan rotor clockwise to take up the tape.
5. Reconnect the battery to eject the cassette.

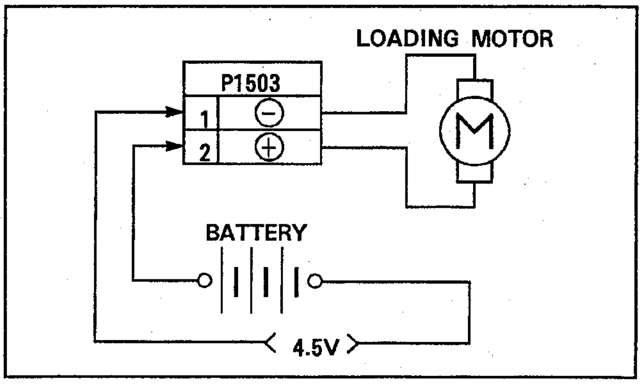


Fig.G1

B. Hand Operation

1. Remove the bottom plate.
2. Turn the worm gear to arrow mark direction (A) by finger as shown in Fig.G2 until loading post move to unloading position.
3. Turn the capstan rotor clockwise (B) to take up the tape.
4. Turn the worm gear again to eject the cassette.

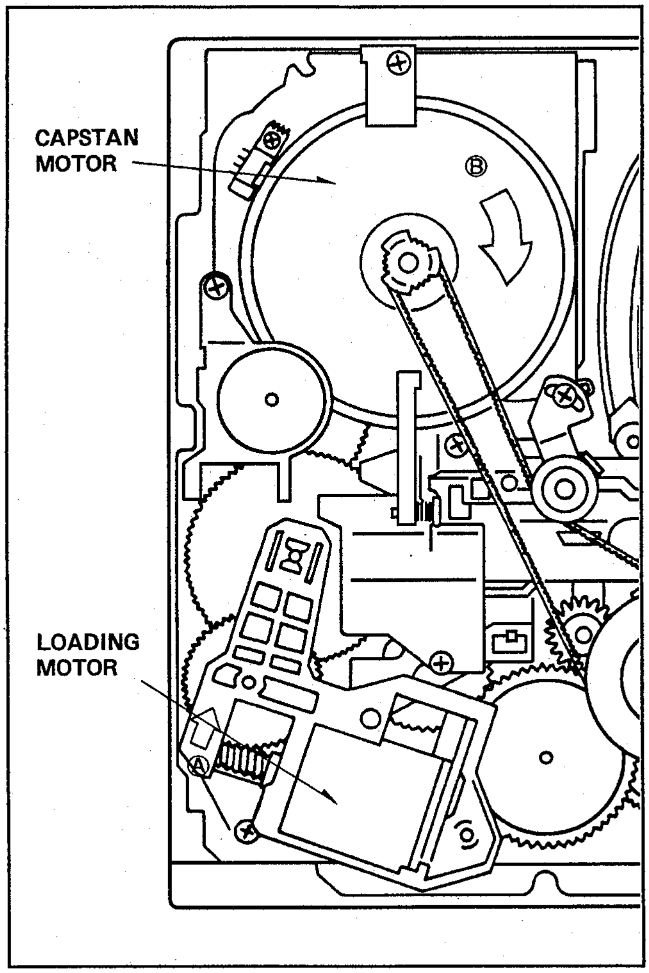

CAPSTAN MOTOR
LOADING MOTOR
A
B

Fig.G2

1-4. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

If the Eject operation is performed without the cassette installed while repairing or making the mechanical phase alignment, the main cam gear will not rotate. For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

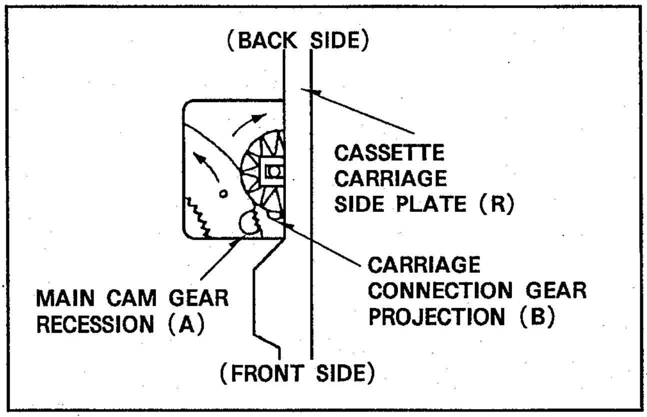

(BACK SIDE)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(FRONT SIDE)

Fig.G3

1-5. REMOVAL of MECHANISM

1-5-1. Removal of Top Plate

1. Unscrew 2 screws (A) and unlock 4 locking tabs to arrow direction as shown in Fig.G4.
2. Lift up the Top Plate.

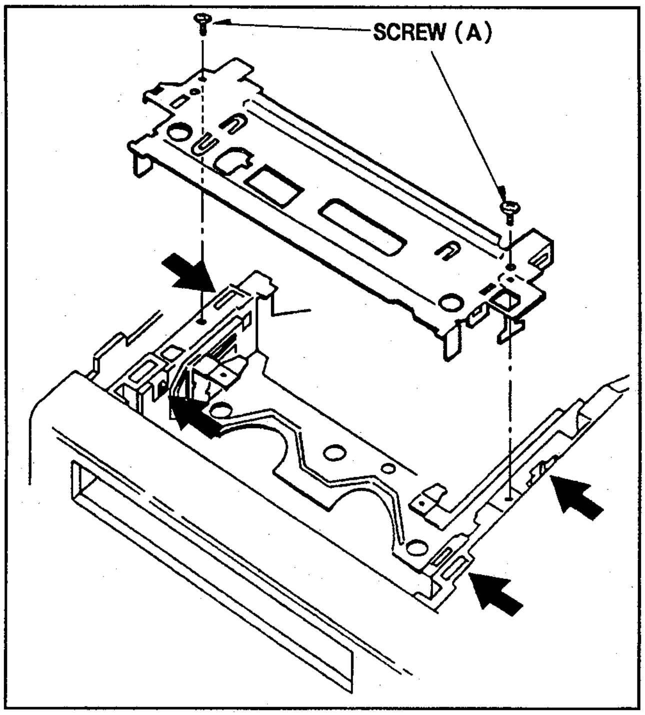


Fig.G4

1-5-2. Removal of Mechanism Chassis

1. Unscrew 2 screws (A) push the Holder Plate slightly to rear of the mechanism.
2. Unscrew a screw (B).
3. Disconnect all cable and connectors on the mechanism chassis.
   1)FE Head connector
   2)A/C Head connector
   3)Power Transistor connector
   4)Head Amp connector
   5)Capstan cable
4. Disconnect a Dew Sensor connector on the MAIN C.B.A.
5. Lift the mechanism chassis slightly and disconnect a connector of Cylinder Motor and a cable of Mechanism Connection C.B.A.
   Then mechanism chassis out of the unit.

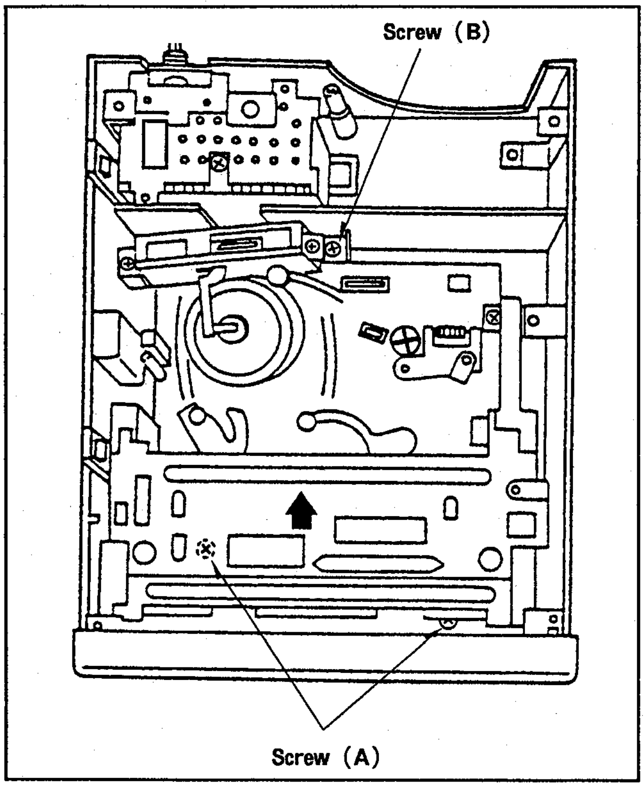


Fig.G5

1-5-3. Removal of Mechanism Connection C.B.A.

1. Unscrew 4 screws (C).
2. Lift up the Mechanism Connection C.B.A.

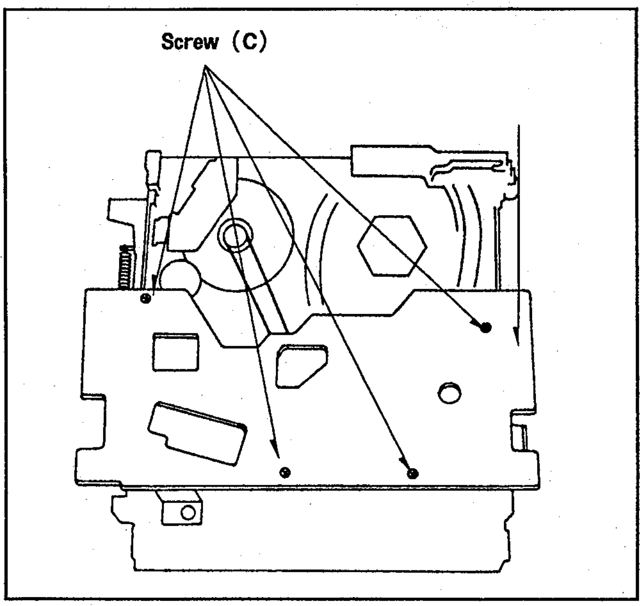
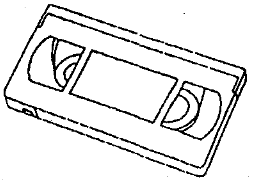
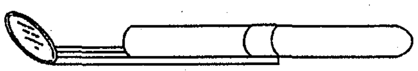
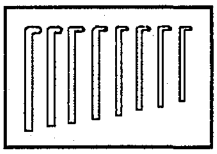
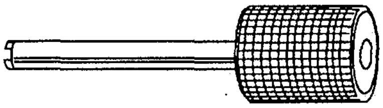
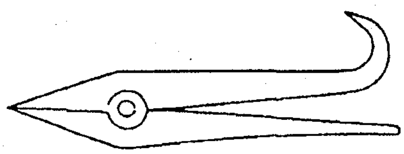
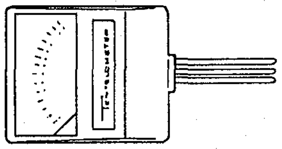
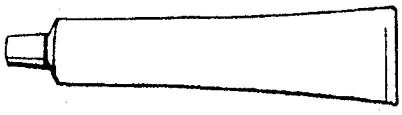
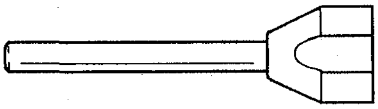
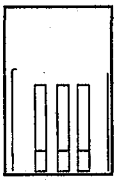
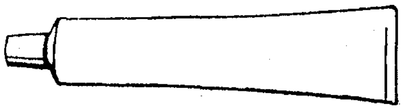
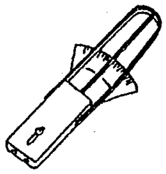
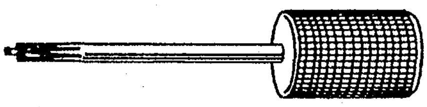


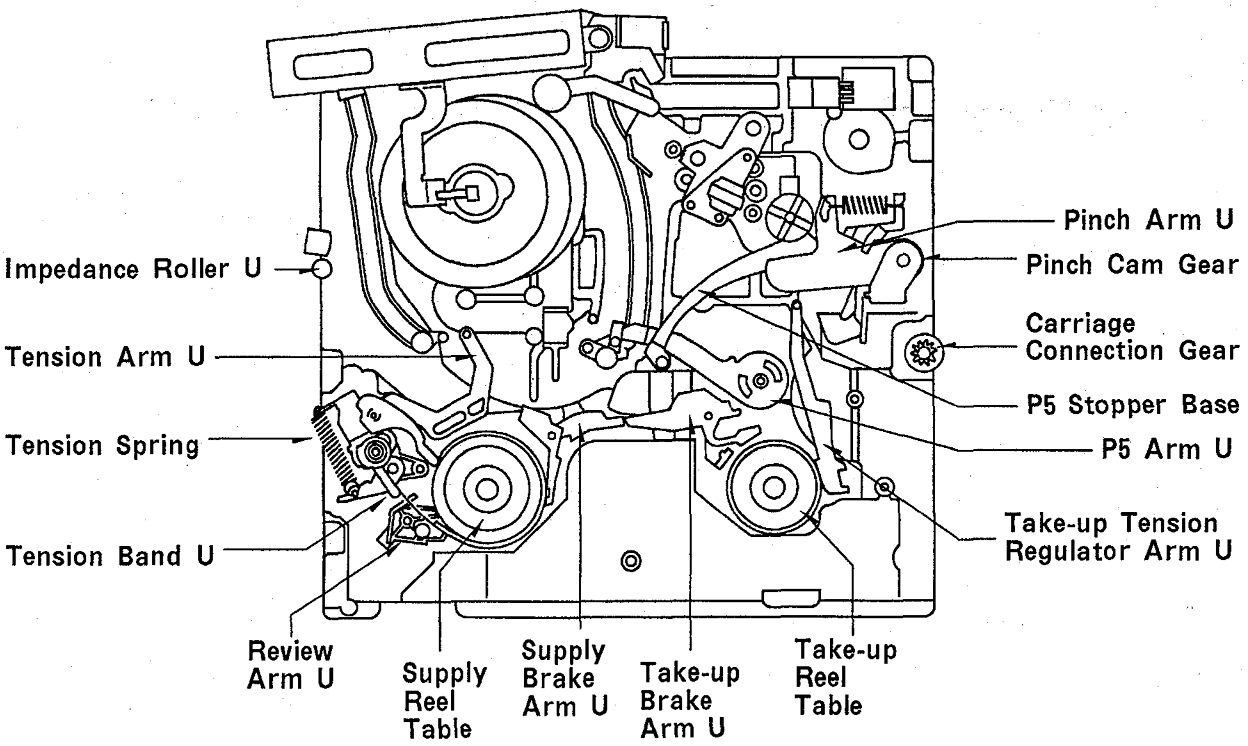
Fig.G6

1-6. SERVICE FIXTURES AND TOOLS

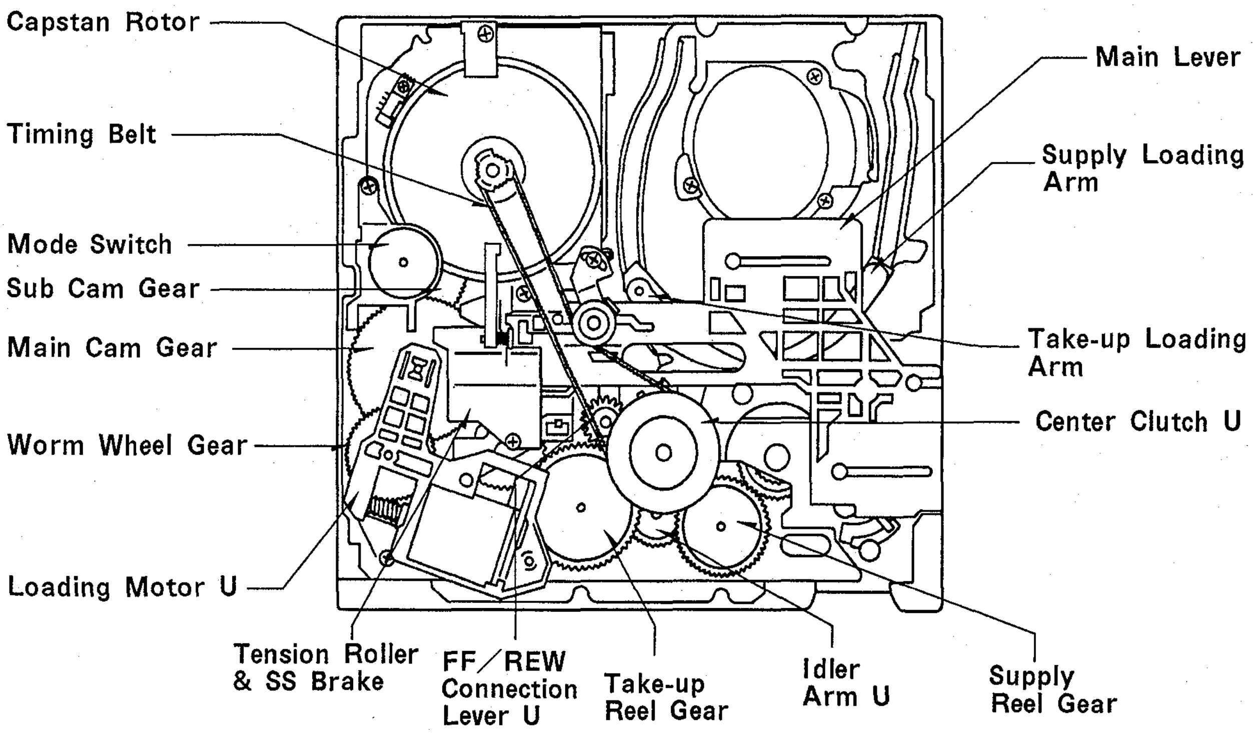
The regular maintenance is important to maintain the initial specification of the unit and prevent tape damage. The specified servicing fixture must be used to conduct adjustment.
The following fixtures, tools and measuring equipments are required to conduct complete Mechanical Adjustments.

VFM8080HQFP: VHS Alignment Tape 	VFK0948: Check Light 	VFK0326: Hex Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 
VFK0329: Post Adj. Screwdriver 	VFK0335: Rataining Ring Remover 	VFK0132: Back Tension Meter (Tentelometer,Made in U.S.A.) 
MOR265: Morlytone Grease (Black) (for metal parts) 	VFK0851: Center Fixing Tool 	VFK27: Head Cleaning Stick 
VFK0680: S.C.R. Grease (White) (for plastic parts) 	VFK66 ; Fan Type Tension Gauge 	VFK0330: Fine Adj. Screwdriver 

1-7. Mechanical Parts Location


Pinch Arm U
Pinch Cam Gear
Impedance Roller U
Carriage Connection Gear
Tension Arm U
P5 Stopper Base
P5 Arm U
Tension Spring
Take-up Tension Regulator Arm U
Tension Band U
Review Arm U
Supply Reel Table
Supply Brake Arm U
Take-up Brake Arm U
Take-up Reel Table

《TOP VIEW》


Capstan Rotor
Main Lever
Timing Belt
Supply Loading Arm
Mode Switch
Sub Cam Gear
Main Cam Gear
Take-up Loading Arm
Center Clutch U
Worm Wheel Gear
Loading Motor U
Tension Roller & SS Brake
FF／REW Connection Lever U
Take-up Reel Gear
Idler Arm U
Supply Reel Gear

《BOTTOM VIEW》

SECTION 2
MAINTENANCE PROCEDURE

The MAINTENANCE CHART please refer to the Maintenance Section which are shown in service manual for each model.

2-1. Replacement of the Upper Cylinder Unit

1. Unscrew 2 screws (A).
2. Unsolder arrows marked portions on the top of the Upper Cylinder as shown in Fig.M1.
3. Remove the Upper Cylinder.
4. The Upper Cylinder can be reinstalled by reversing the removal procedure.
   However, when insert the Upper Cylinder be extremely carefully so that marked portion of P.C.board of the Upper Cylinder correctly matches to mark of the Lower Cylinder as shown in Fig.M2.

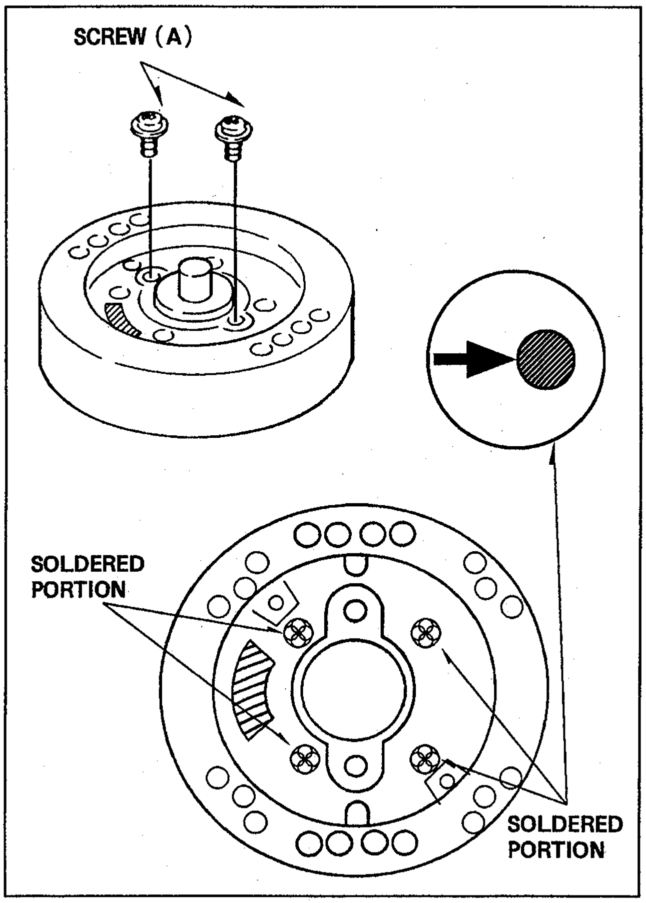


Fig.M1

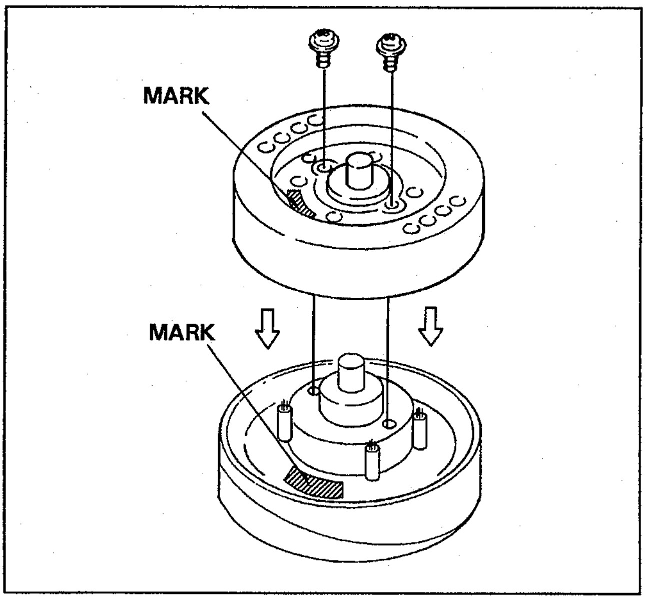


Fig.M2

<NOTE>
After reinstall the Upper Cylinder Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-6. HORIZONTAL POSITION ADJUSTMENT

2-2. Replacement of Cylinder Unit

1. Remove the Earth Plate.
2. Unscrew 2 screws both side of Head Amp Unit and lift up the Head AMP.
3. Unscrew 3 screws (B) from back side of the mechanical chassis then remove the Cylinder Unit.
4. The Cylinder Unit can be reinstalled by reversing the removal procedure.

<Note>
After reinstall the Cylinder Unit should be perform Mechanical and Electrical adjustments.

3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-6. HORIZONTAL POSITION ADJUSTMENT

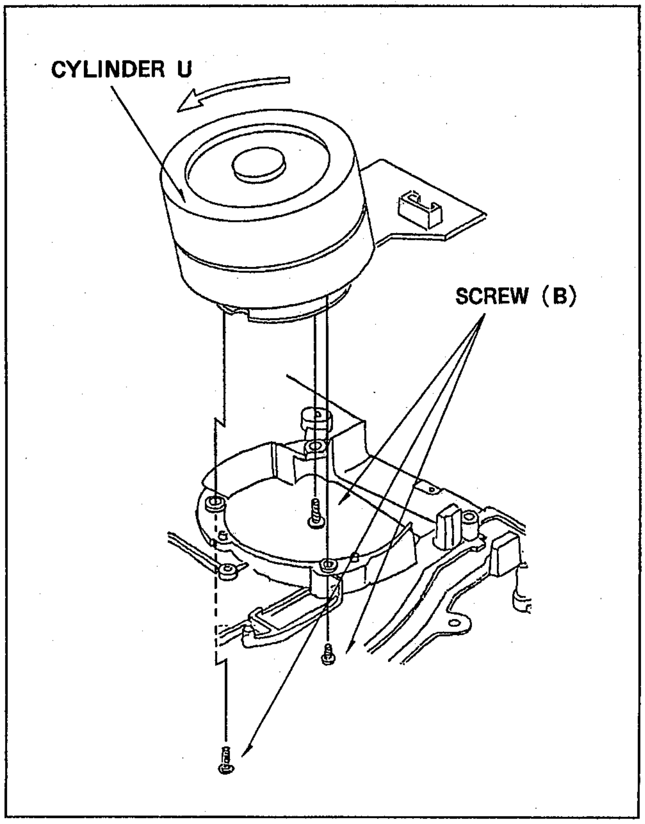


Fig.M3

2-3. Replacement of A/C HEAD Unit

1. Unscrew 3 screws (C)(D)(E) with the 3 springs then remove the A/C Head unit from the A/C Head Base.
2. The A/C Head Unit can be reinstalled by reversing the removal procedure.

<Note>
A space should be equality between the A/C Head U and the A/C Head Base when reinstall the A/C Head unit.

After reinstall the A/C Head Unit should be perform Mechanical and Electrical adjustments.

3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-3. COARSE ADJUSTMENT of A/C HEAD HEIGHT(1)
3-4. COARSE ADJUSTMENT of A/C HEAD HEIGHT(2)
3-5. FINE ADJUSTMENT of A/C HEAD HEIGHT
3-6. HORIZONTAL POSITION ADJUSTMENT

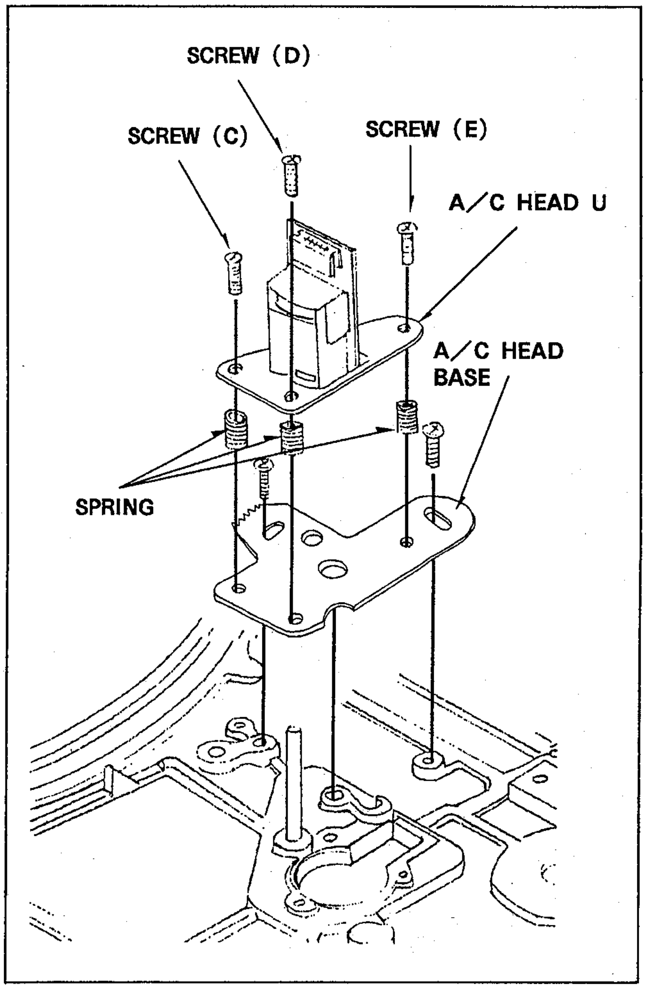


Fig.M4

2-4. Replacement of Full Erase Head Unit

1. Disconnect a connector (A).
2. Unscrew screw (F) then remove the FE Head.
3. FE Head Unit put into hole on the mechanical chassis and can be reinstalled by reversing the removal procedure.

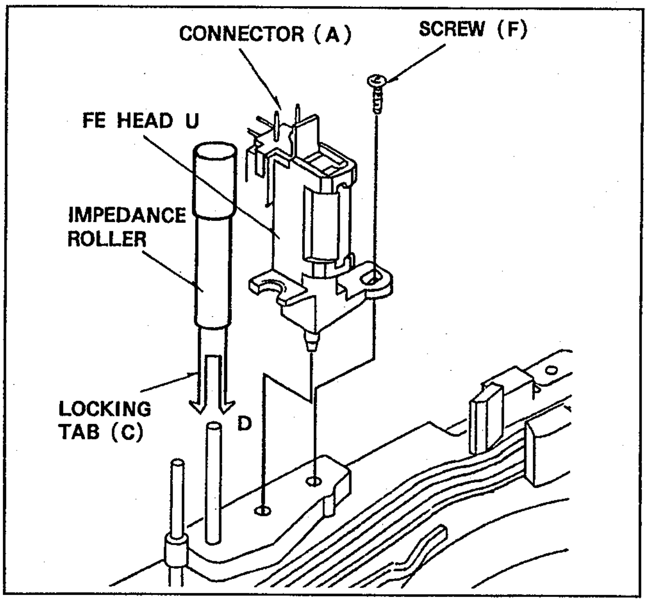


Fig.M5

2-5. Replacement of Capstan Rotor Unit and Stator Unit

1. Remove the Rotor Stopper.
2. Carefully lift up the Capstan Rotor from the Capstan Housing, taking care so as not loose the 2 Oil Seals.
3. Unscrew 3 screws (G) and remove the Capstan Stator Unit as shown in Fig.M6.
4. The Capstan Rotor and Stator can be reinstalled by reversing the removal procedure.

<Note>

After reinstall the Capstan Rotor and Stator Units should be perform Mechanical adjustment.

3-9. ADJUSTMENT of CAPSTAN HOUSING & STATOR
3-10. ADJUSTMENT of THRUST GAP
3-11. ADJUSTMENT of FG GAP

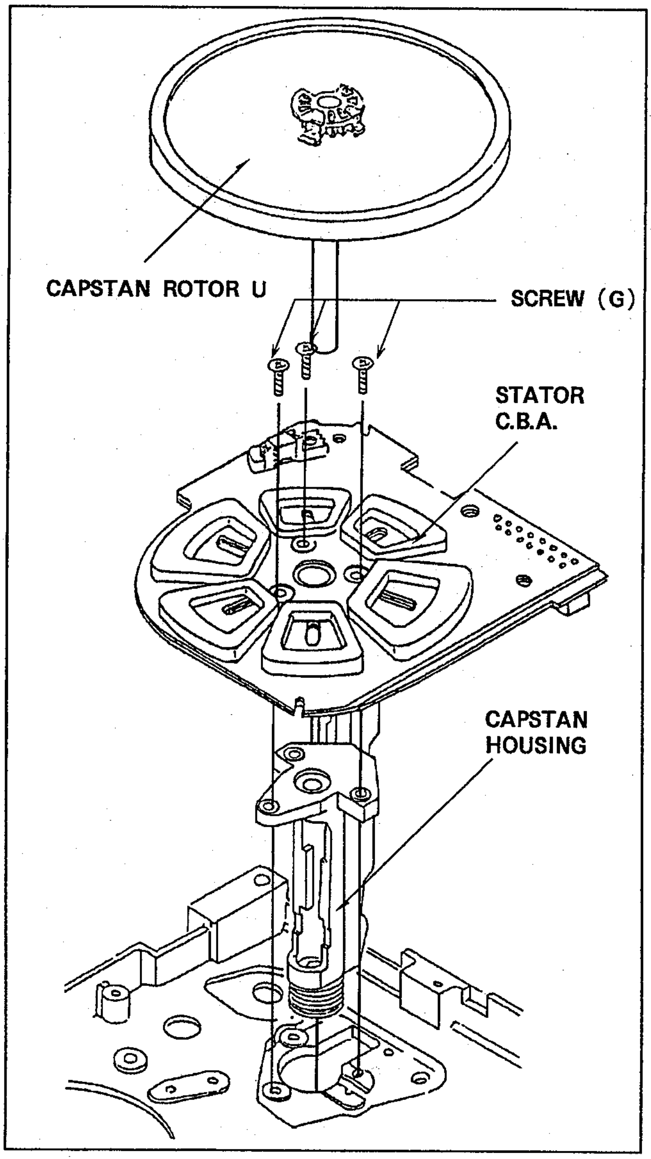


Fig.M6

2-6. Replacement of Impedance Roller Unit

1. Remove the Full Erase Head Unit with removal procedure(2-4).
2. Unlock then locking tab to direction of arrow mark as shown in Fig.M5 and remove the Impedance Roller Unit.
3. The Impedance Roller Unit can be reinstalled by reversing the removal procedure.

2-7. Replacement of Pinch Arm Unit

1. Unlock the locking tab on the Opener Piece and remove it from the shaft.
2. Remove the Pinch Arm Unit from the shaft.
3. The Pinch Arm Unit can be reinstalled by reversing the removal procedure.

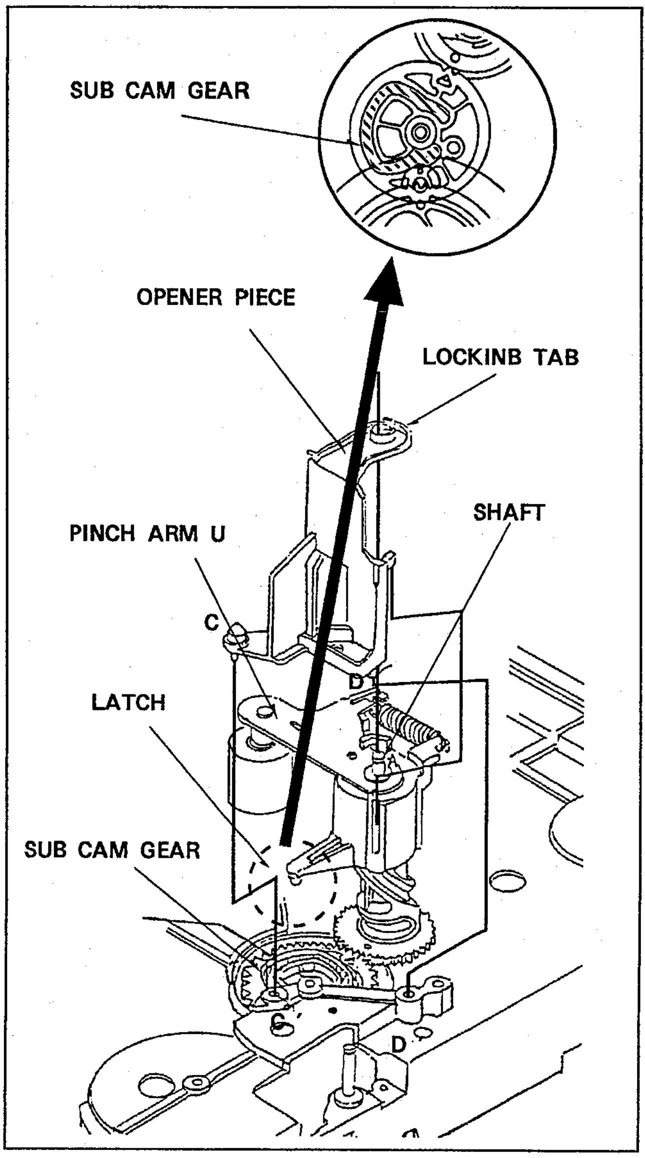

SUB CAM GEAR
OPENER PIECE
LOCKINB TAB
SHAFT
PINCH ARM U
C
D
LATCH
SUB CAM GEAR
C
D

Fig.M7

2-8. Replacement of Take-up and Supply Reel Base Units

A. Supply Reel Base Unit

1. Remove the Tension Band Unit on the Supply Reel Base Unit.
2. Push the Supply main Brake Arm to direction of arrow mark and unlock the locking tab on the Supply Reel Base then pull up the Supply Reel Base Unit as shown in Fig.M8.
3. The Supply Reel Base Unit can be reinstalled by reversing the removal procedure.

B. Take-up Reel Base Unit

1. Push the Take-up Main Brake Arm to direction of arrow mark and unlock the locking tab on the top of Take-up Reel Base then pull out the Supply Reel Base Unit as shown in Fig.M8.

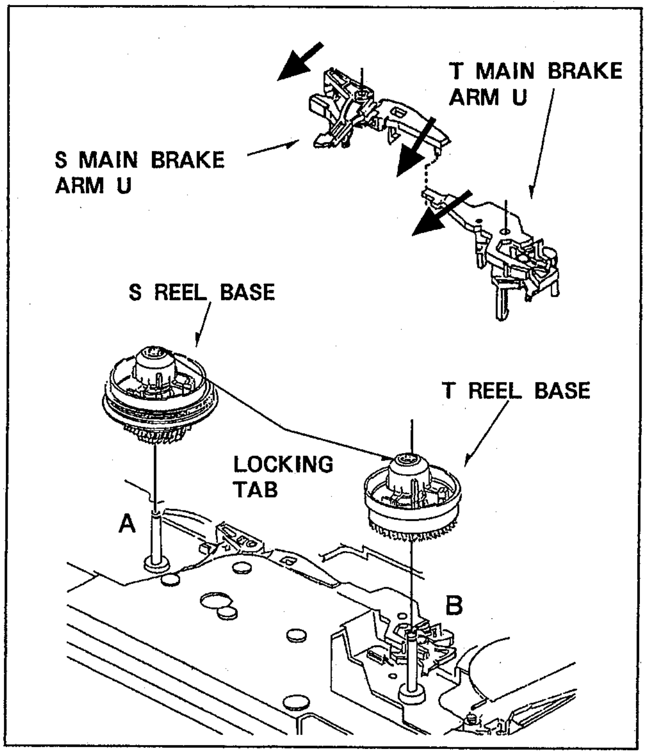

T MAIN BRAKE ARM U
S MAIN BRAKE ARM U
S REEL BASE
T REEL BASE
LOCKING TAB
A
B

Fig.M8

2-9. Replacement of Take-up and Supply Brake Arm Unit.

1. Unlock the locking tab (A) to direction of arrow mark and lift up the Supply Brake Arm Unit.
2. Unlock the locking tab (B) and lift up the Take-up Brake Arm Unit.
3. Both Brake Arm Units can be reinstalled by reversing the removal procedure.
   However the boss (C) of the Supply Brake Arm Unit insert to hole (E) of mechanical chassis while pushing the Main Lever to direction of arrow mark as shown in Fig.M9. (expanded view)

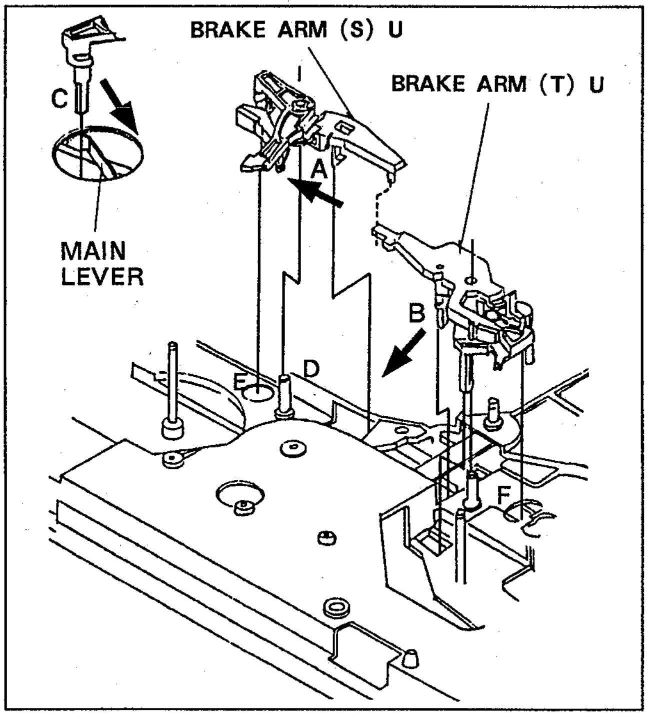

BRAKE ARM (S) U
BRAKE ARM (T) U
C
A
MAIN
LEVER
B
E
D
F

Fig.M9

2-10. Replacement of Tension Band Unit

1. Remove the cut washer (H) and lift up the Tension Arm Unit with the Tension Band and spring from the Tension Spring Arm.
2. Unlock the locking tab (A) to direction of arrow mark and remove the Tension Band from the Arm Unit.
3. Unlock the locking tab (B) and remove the Tension Band from the Tension Arm Unit.
4. The Tension Band Unit can be reinstalled by reversing the removal procedure.

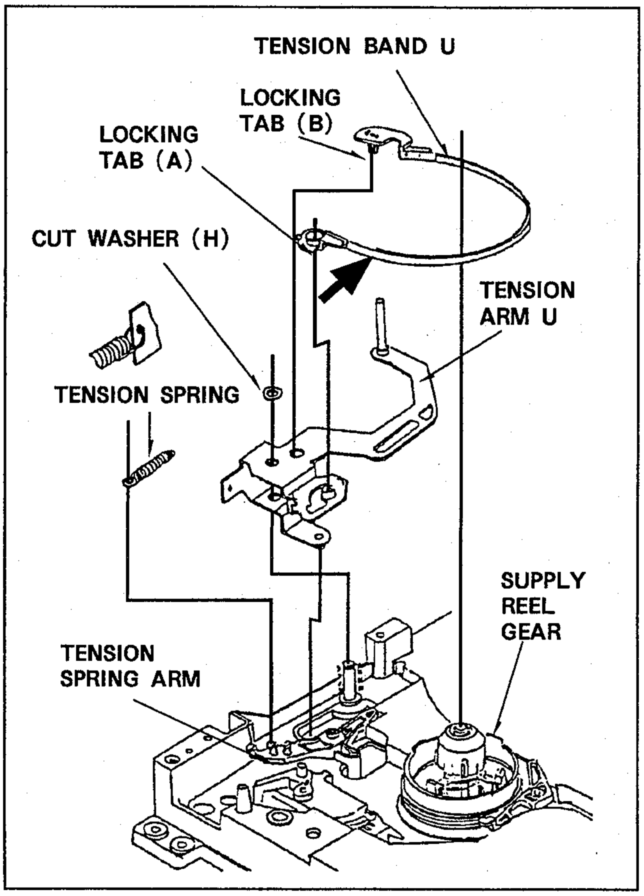

TENSION BAND U
LOCKING
TAB (B)
LOCKING
TAB (A)
CUT WASHER (H)
TENSION
ARM U
TENSION SPRING
SUPPLY
REEL
GEAR
TENSION
SPRING ARM

Fig.M10

2-11. Replacement of Loading Motor Unit

1. Unscrew screw (I).
2. Unlock the locking tab (A) from the top of the mechanical chassis.
3. Lift up the Loading Motor Bracket and push it to direction of arrow mark as shown in Fig.M11.
4. When reinstall the Loading Motor Unit, insert the locking hole (B') of Loading Motor Bracket Unit to shaft (B) on the mechanical chassis. Also a hole (C) of the loading Motor Unit must be matched to the shaft (C') as shown in Fig.M11.

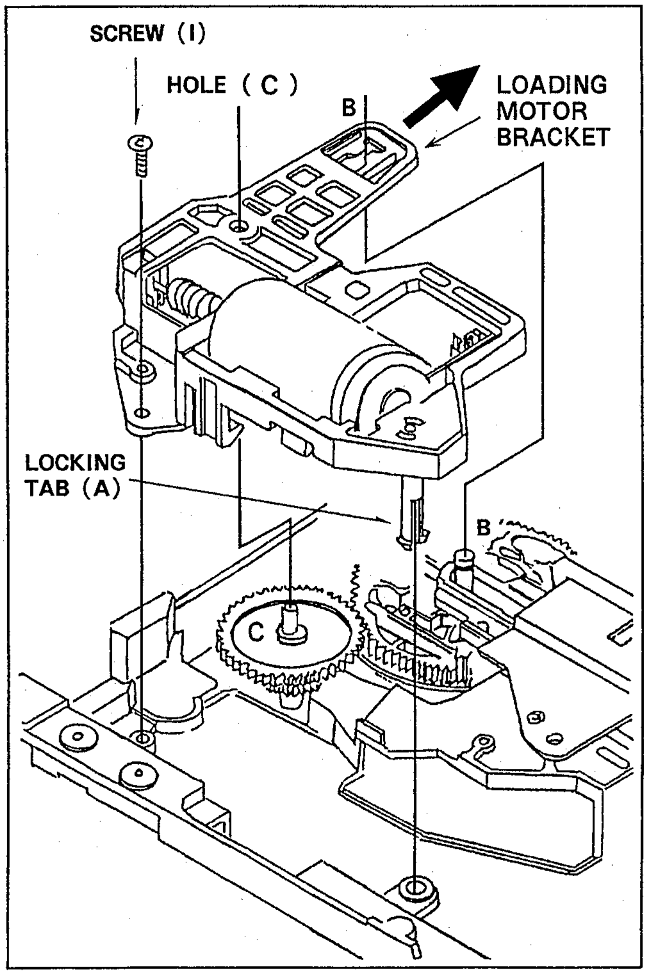

SCREW (I)
HOLE (C)
B
LOADING
MOTOR
BRACKET
LOCKING
TAB (A)
B'
C

Fig.M11

2-12. Replacement of Cleaner Roller Unit

1. Unlock the locking tab (A) as shown in Fig.M12. and lift it up.
2. The Cleaner Roller Unit can be reinstalled by reversing the removal procedure.

3. Replacement of the Cleaner Rubber Unit. Hold the Cleaner Roller Unit and unlock the locking tab (B) then lift it up.

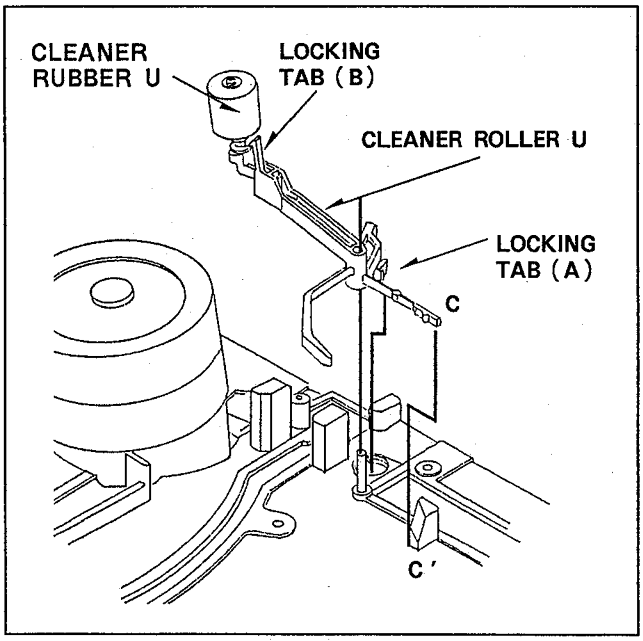

CLEANER
RUBBER U
LOCKING
TAB (B)
CLEANER ROLLER U
LOCKING
TAB (A)
C
C'

Fig.M12

2-13. Replacement of SS Brake Base Unit and Timing Belt

1. Remove the Timing Belt.
2. Unscrew (J) and (K) then remove SS Brake Base Unit.
3. SS Brake Unit and Timing Belt can be reinstalled by reversing the removal procedure.

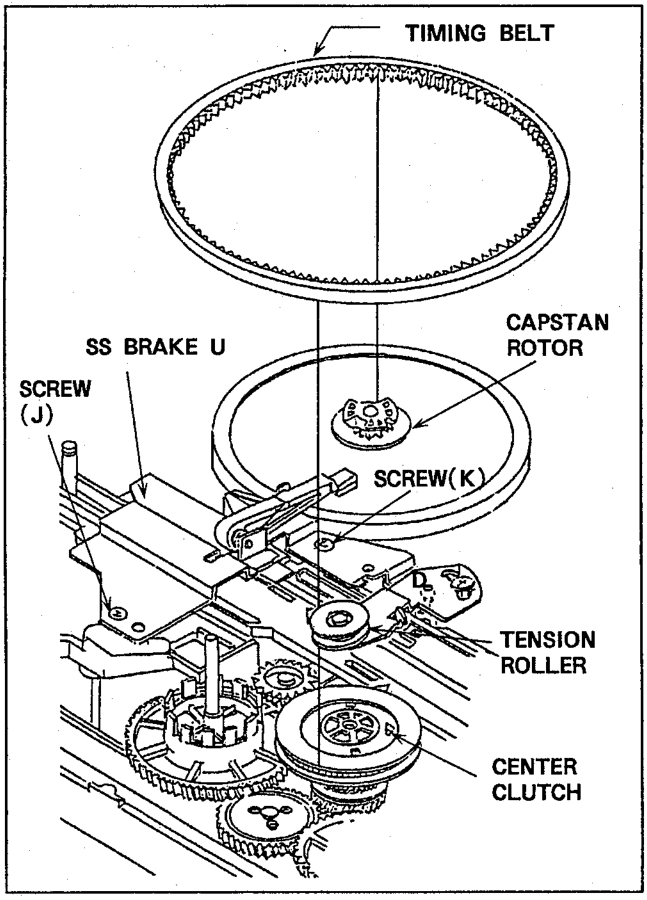

TIMING BELT
CAPSTAN ROTOR
SS BRAKE U
SCREW (J)
SCREW(K)
TENSION ROLLER
CENTER CLUTCH

Fig.M13

2-14. Replacement of Supply & Take-up Inclined Base Unit

1. Remove SS Brake Unit, Main Lever Unit and Supply and Take-up Loading Arm Unit refer to SECTION 2. and 3. in this service manual.
2. Remove the Inclined Holder base (A) from back side of mechanism chassis.
3. Remove the Supply and Take-up Inclined Base Units.
4. The both Inclined Base Units can be reinstalled by reversing the removal procedure.

<NOTE>

After reinstall the Inclined Base Unit should be perform Mechanical adjustment.

3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-5. FINE ADJUSTMENT of A/C HEAD HEIGHT
3-6. HORIZONTAL POSITION ADJUSTMENT of A/C HEAD

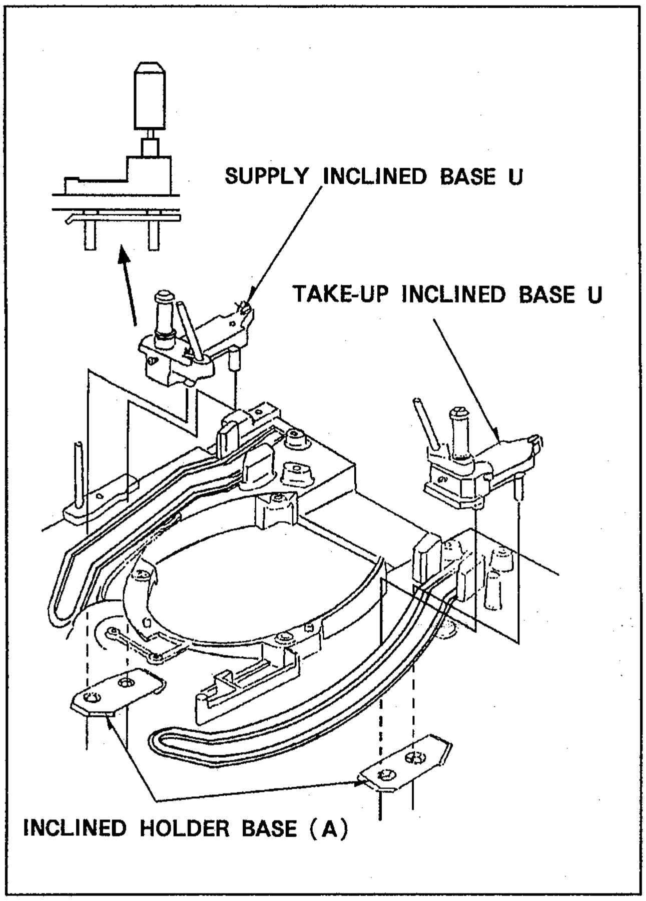

SUPPLY INCLINED BASE U
TAKE-UP INCLINED BASE U
INCLINED HOLDER BASE (A)

Fig.M14

SECTION 3
MECHANICAL ADJUSTMENT PROCEDURE

3-1. Coarse Adjustment of Tape Guide Post Height

1. Remove the Top Plate and Cassette Holder.
2. Turn the Loading Motor until the unloading completes.
3. Loosen the fixing screw of P2 and P3 Posts.
4. Rotate the P2 and P3 Posts clockwise to the end.
5. Rotate the P2 and P3 Posts twice counter-clockwise as shown in Fig.M15.
6. Install the Cassette Holder and Top Plate.
7. Playback the normal tape and make sure that the edge of not curing at the bottom or top end of the P1,P2,P3 and P4 Posts as shown in Fig.M17.

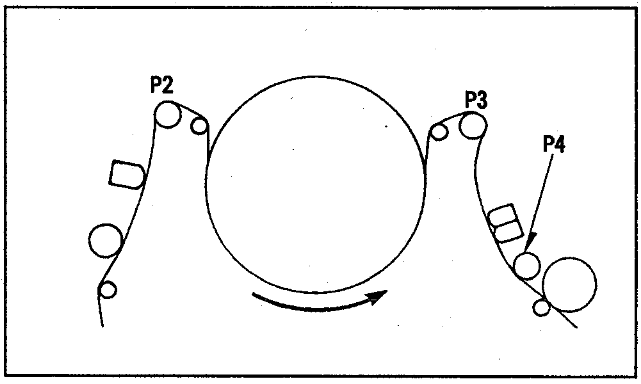


Fig.M16

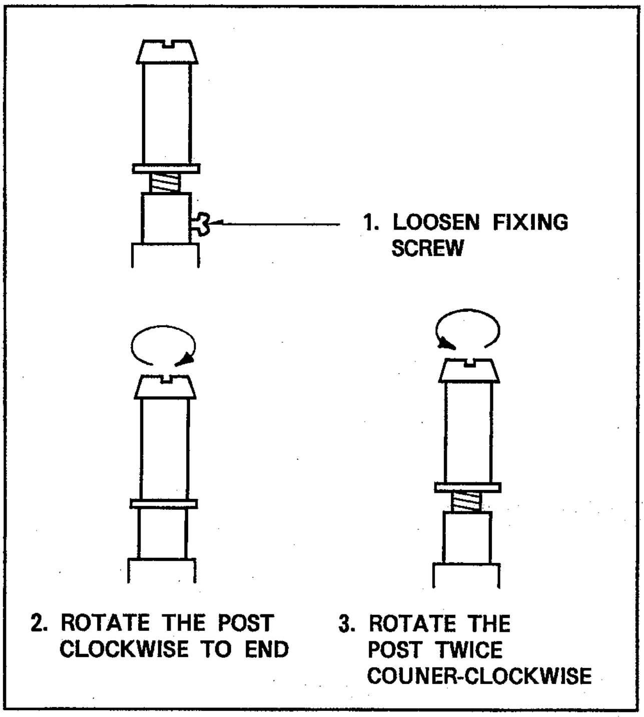

1. LOOSEN FIXING SCREW
2. ROTATE THE POST CLOCKWISE TO END
3. ROTATE THE POST TWICE COUNER-CLOCKWISE

Fig.M15

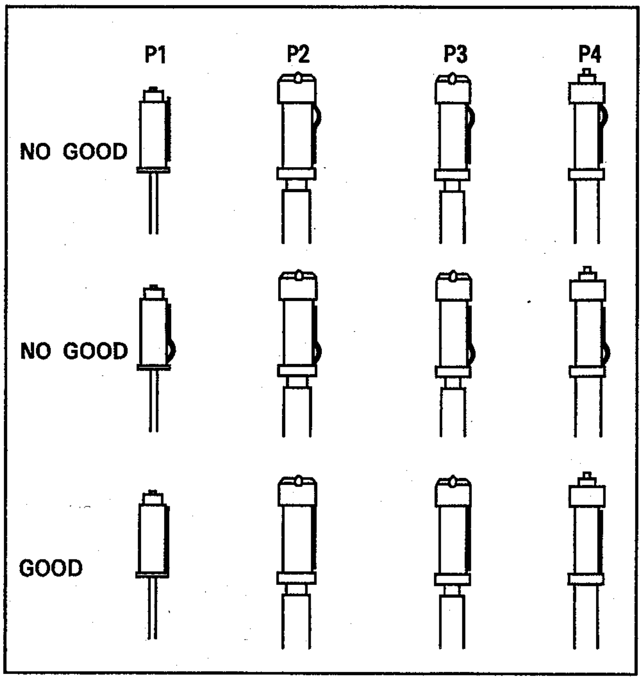

P1
P2
P3
P4
NO GOOD
NO GOOD
GOOD

Fig.M17

3-2. Fine Adjustment of P2 and P3 Posts

1. Connect the oscilloscope to the Test Point of the HEAD AMP (Video RF Envelope) and the head switching pulse as a triggering signal.

<NOTE>
TEST POINT please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

2. Playback the 2nd portion of the alignment tape.
3. Press the tracking control button on the Front panel and adjust for maximum Video RF envelope.
4. If the RF envelope appears like example "A" or "B" in Fig.M18 then adjustment of the tape guide post (P3:Exit) is necessary.
5. Adjust the P3 post with the post adjustment screwdriver so that the RF envelope waveform at the exit portion becomes flat as shown in Fig.M18.
6. If the RF envelope appears like example "C" or "D" in Fig.M18 then adjustment of the tape guide post (P2:Entrance) is necessary.
7. Adjust the P2 post with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M18.

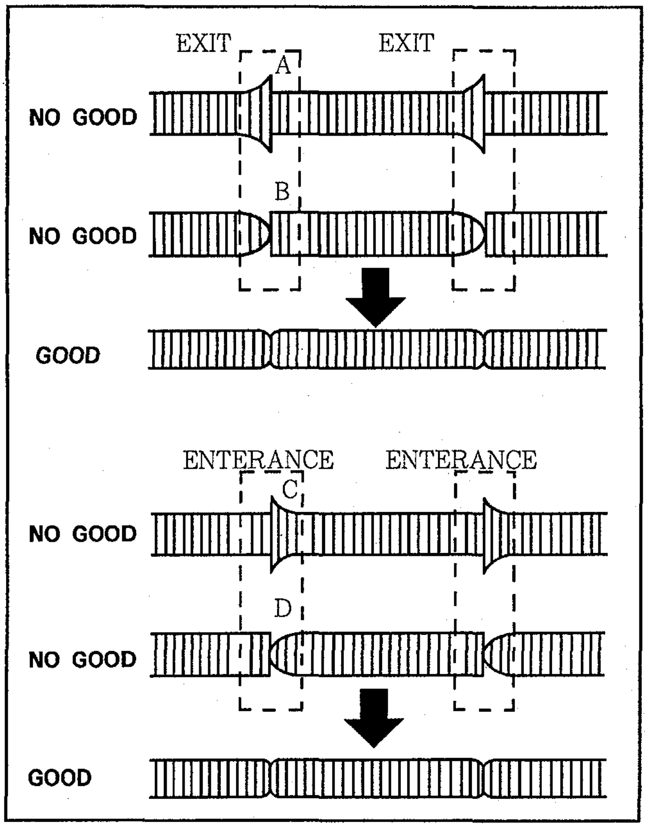

EXIT
A
EXIT
NO GOOD
B
NO GOOD
GOOD
ENTERANCE
C
ENTERANCE
NO GOOD
D
NO GOOD
GOOD

Fig.M18

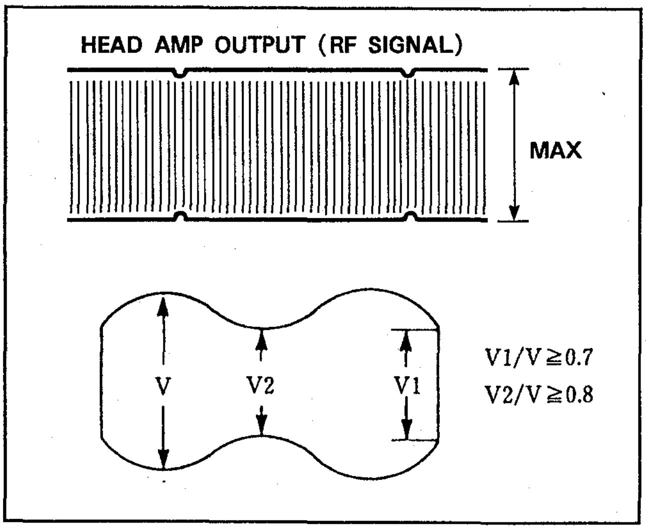

HEAD AMP OUTPUT (RF SIGNAL)
MAX
V
V2
V1
V1/V≧0.7
V2/V≧0.8

Fig.M19

3-3. Coarse Adjustment of A/C Head Height (1)

<NOTE>
This procedure should be performed only when the A/C Head is replaced.

1. Playback the normal tape.
2. Turn the 3 screws (A)(B)(C) mutually so that lower edge of tape running at lower edge of A/C Head and confirm a space as much as possible to flat between the A/C Head Unit and the A/C Head Base.

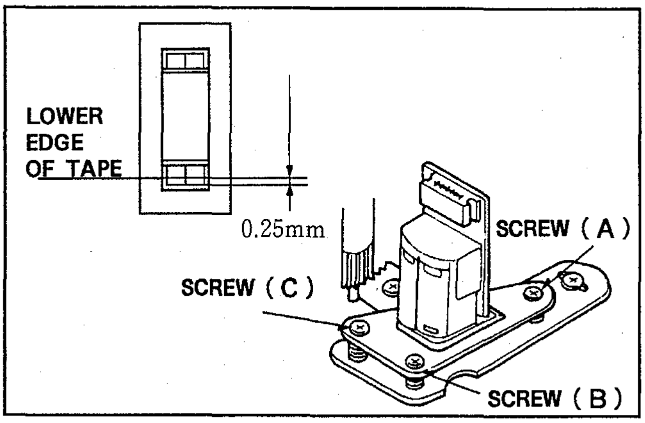

LOWER EDGE OF TAPE
0.25mm
SCREW (A)
SCREW (C)
SCREW (B)

Fig.M20

3-4. Coarse Adjustment of A/C Head Height (2)

1. Playback the normal tape.
2. Rotate the screw (A) as shown in Fig.M20 until the wrinkle appears on the lower edge of tape at P4 Post.
3. Rotate the screw (B) until the wrinkle just disappear on the lower edge of tape at P4 Post.

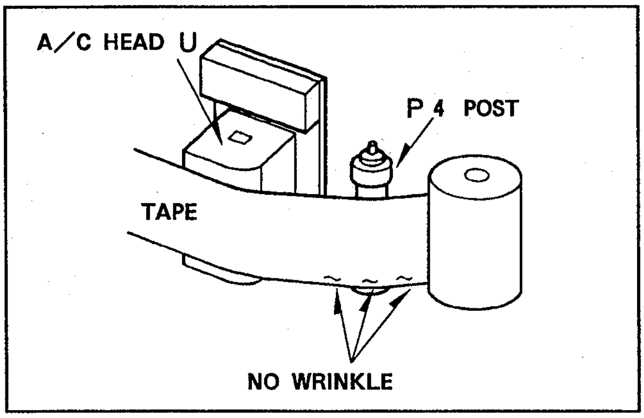


Fig.M21

3-5. Fine Adjustment of A/C Head Height

1. Connect the oscilloscope to the Audio output.
2. Playback the 2nd portion of the alignment tape.
3. Rotate the screw (C) so that audio signal becomes maximum.

<When moving the A/C Head up>

1. Rotate the screw (A) counter-clockwise until the wrinkle appears on the lower edge of tape at P4 Post.
2. Rotate the screw (B) counter-clockwise until just disappears on the lower edge of tape at P4 Post.
3. Rotate the screw (C) counter-clockwise until the audio signal is maximized.

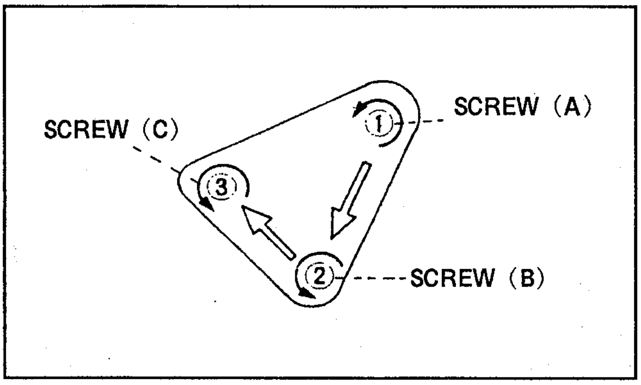


Fig.M22

<When moving the A/C Head down>

1. Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape at P4 Post.
2. Rotate the screw (A) clockwise until the wrinkle just disappear on the lower edge of tape at P4 Post.
3. Rotate the screw (C) clockwise until the audio signal is maximized.

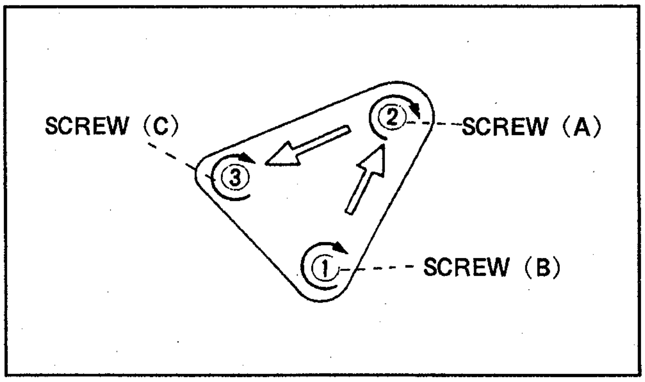


Fig.M23

3-6. Horizontal Position Adjustment of A/C Head.

<NOTE>
TEST POINT and JUMPER WIRE position, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

1. Set the tracking control into the center fix position by connect a jumper wire on the MAIN C.B.A.
2. Connect the oscilloscope to the Audio output, Video RF envelope on the Head Amp test point and head switching pulse on the Head Amp test point as for triggering.
3. Playback the 4th portion of the alignment tape.
4. Loosen the 2 screws (D)(E).
5. Adjust the A/C Head Base (F) so that the phase of audio drop-out and RF video drop-out becomes the same as possible. Fig.M24.
6. Playback the 2nd portion of the alignment tape.
7. Adjust the A/C Head Base (F) until the video RF signal is maximized.
8. Carefully tighten screw (D) with hold the A/C Head Base position with the Fine Adjustment Gear Driver then tighten screw (E).

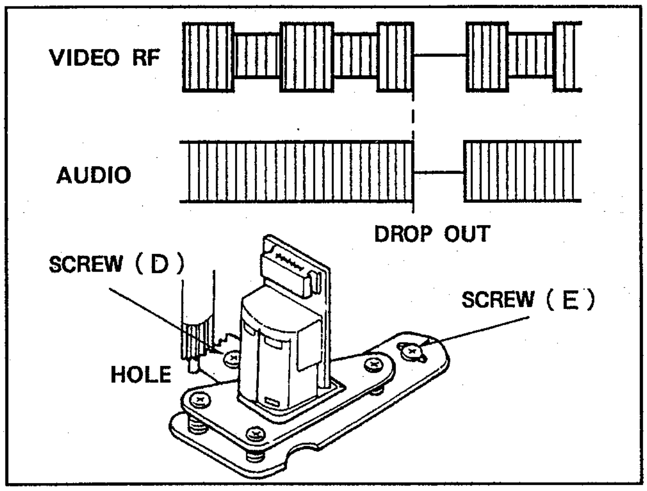

VIDEO RF
AUDIO
DROP OUT
SCREW (D)
SCREW (E)
HOLE

Fig.M24

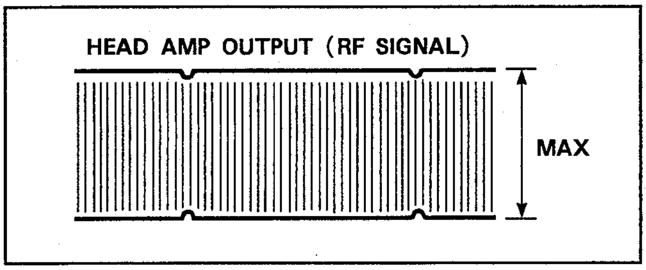


Fig.M25

3-7. Adjustment of Tension Post Position

1. Remove the Top Plate and Cassette Holder.
2. Turn the Loading Motor until the loading completes.
3. Adjust the hole of the Tension Band Unit by Hex wrench so that the left edge of the Impedance Roller and Tension Arm Unit as shown in Fig.M26.

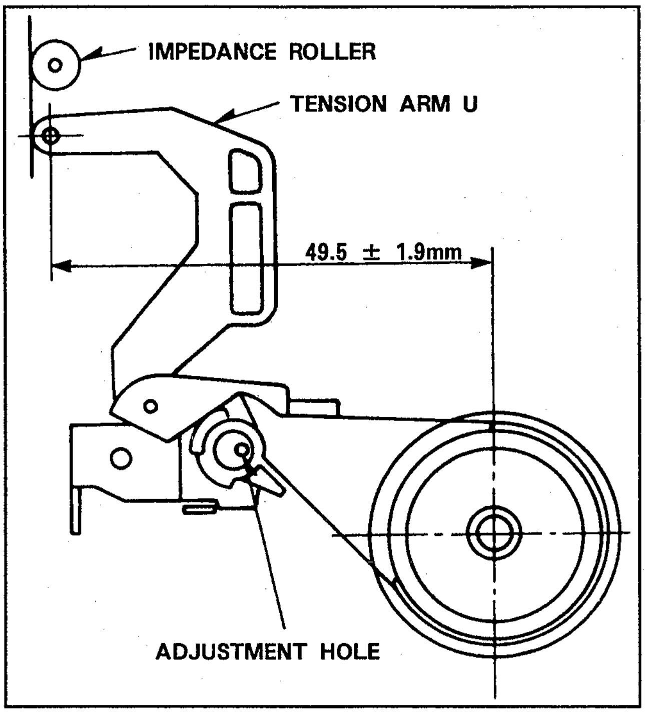

IMPEDANCE ROLLER
TENSION ARM U
49.5 ± 1.9mm
ADJUSTMENT HOLE

Fig.M26

3-8. Adjustment of Back Tension

1. Playback the cassette tape from the begging of tape and wait until tape movement has stabilized.
2. Insert the back tension meter into the path of the tape and confirm the back tension to be within specification as shown in Fig.M27.
3. If back tension is not in the specification, change the spring notch as shown in Fig.M28.

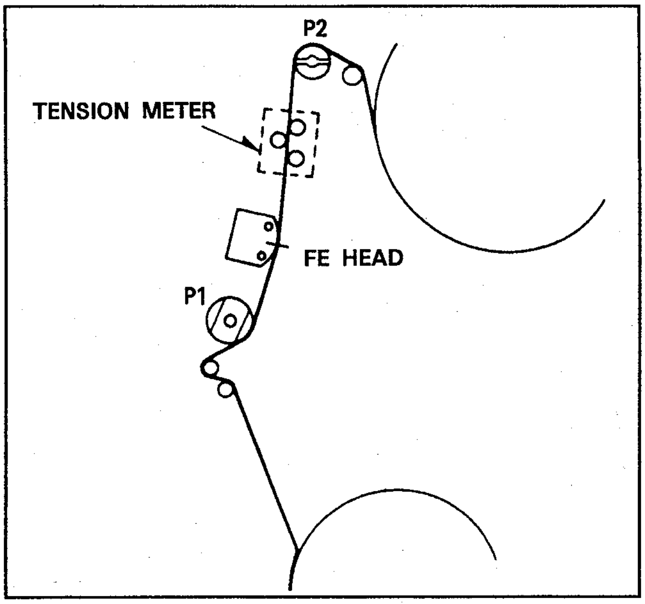

P2
TENSION METER
FE HEAD
P1

Fig.M27

<NOTE>
Specification of Back Tension, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

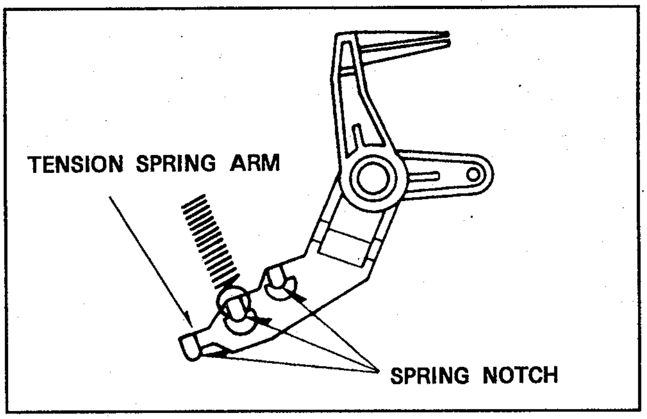

TENSION SPRING ARM
SPRING NOTCH

Fig.M28

3-9. Adjustment of Capstan Housing & Stator.

1. Install the Capstan Housing into the mechanical chassis and place the Capstan Stator into position.
2. Loosely tighten 3 screws (G).
3. Insert the Center Fixing Tool (VFK0851) as shown in Fig.M29.
4. Tighten 3 screws (G).
5. Remove the Center Fixing Tool.

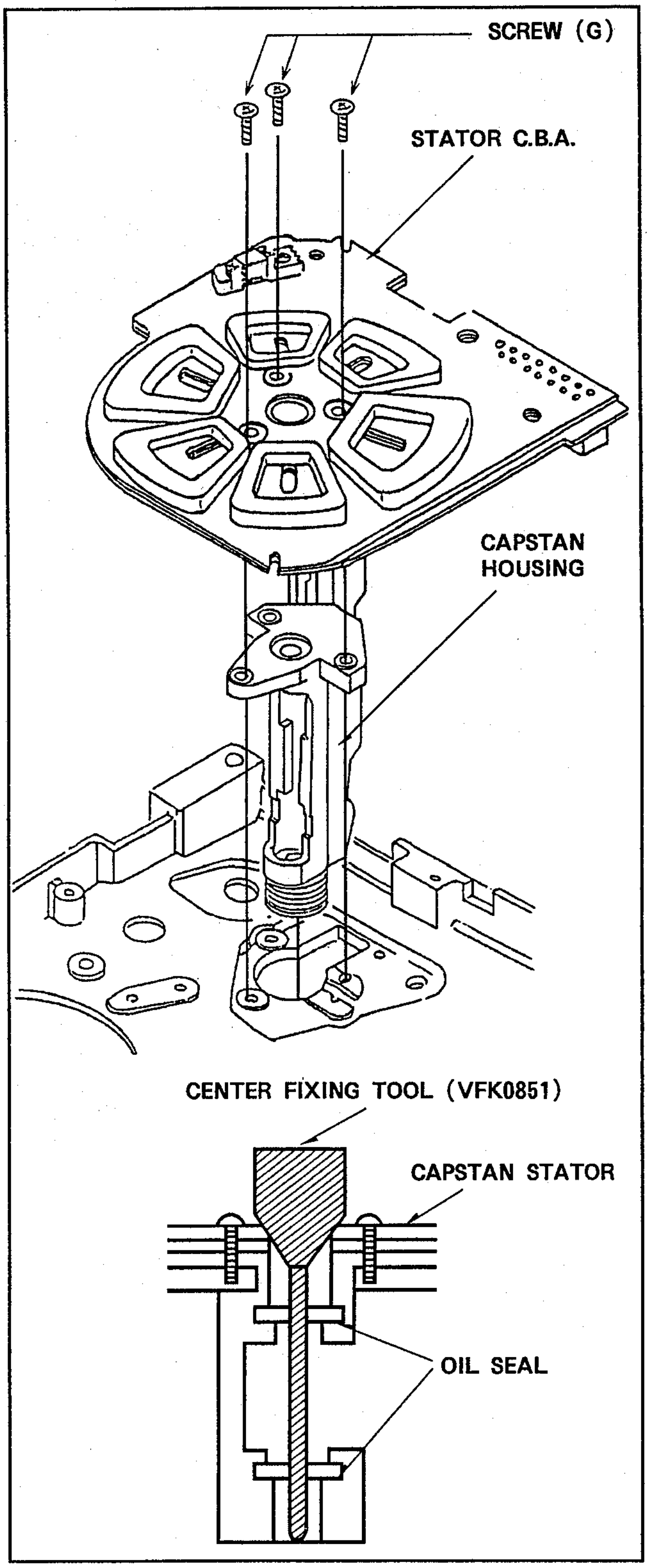

SCREW (G)
STATOR C.B.A.
CAPSTAN HOUSING
CENTER FIXING TOOL (VFK0851)
CAPSTAN STATOR
OIL SEAL

Fig.M29

3-10. Adjustment of Thrust Gap

1. Turn the Thrust Adjustment Screw clockwise to until the Capstan Rotor just separate from the Capstan Stator while rotating the Capstan Rotor by hand.
2. Turn the Thrust Adjustment Screw clockwise to 180 degrees from point at step 1.
3. Set the 2 Oil Seal to edge of the Capstan Housing as show in Fig.M30.

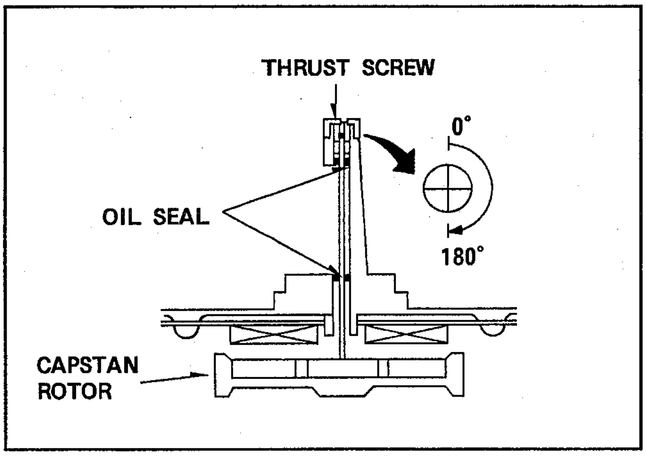


Fig.M30

3-11. Adjustment of FG GAP

1. Loosen screw (H) and set the Fine Adjustment Screw Driver in the hole on the Capstan Stator Unit.
2. Adjust the gap between FG Head and the Capstan Rotor.
3. After adjustment, tighten a screw (H).

<NOTE>
Specification of FG GAP, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

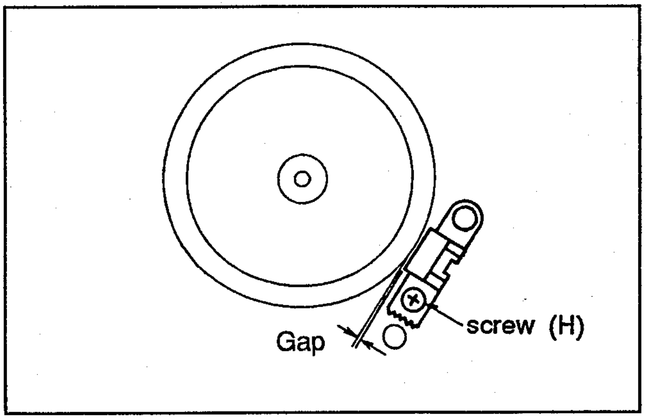


Fig.M31

3-12. Pressing Force Confirmation of the Pressure Roller

1. Playback the end portion of the 120 minutes tape.
2. Set the Fan type tension gauge to point (A) and push to direction indicated by the arrow (B) as shown in Fig.M32.
3. Confirm that reading of tension gauge is in specification at momentary stop the tape running.

<Note>
Specification of PRESSING FORCE, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

If the pressing force is not in specification, change the pressure spring.

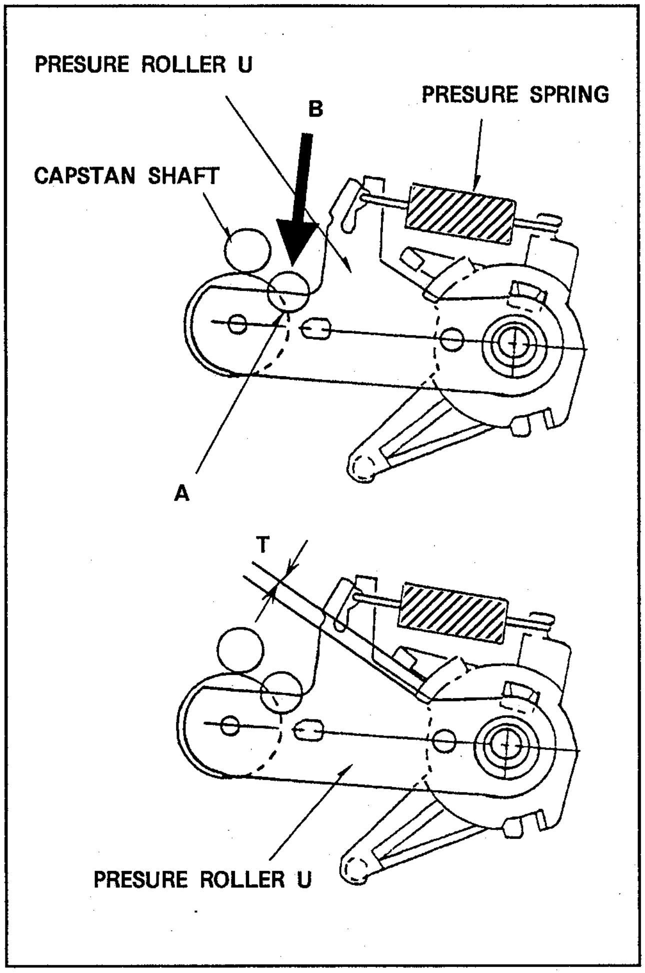


Fig.M32

SECTION 4
ASSEMBLY & PHASE ADJUSTMENT PROCEDURE

4-1. Assembly Procedures of Mechanism

The gear phase alignment is performed in the cassette down position and is crucial for the K-Mechanism to operate correctly.

1. Top view of gear phase alignment marks. There are alignment marks on the pinch cam gear and sub cam gear. there is one alignment mark on the carriage gear.
2. Bottom view of gear phase alignment marks. There are alignment marks on take-up loading gear and supply loading gear. There is an additional mark on the take-up loading gear that aligns with the mark on the main lever. There are alignment marks on the main cam gear and the sub cam gear. The mode switch gear mark aligns with a notch in the mode switch frame.

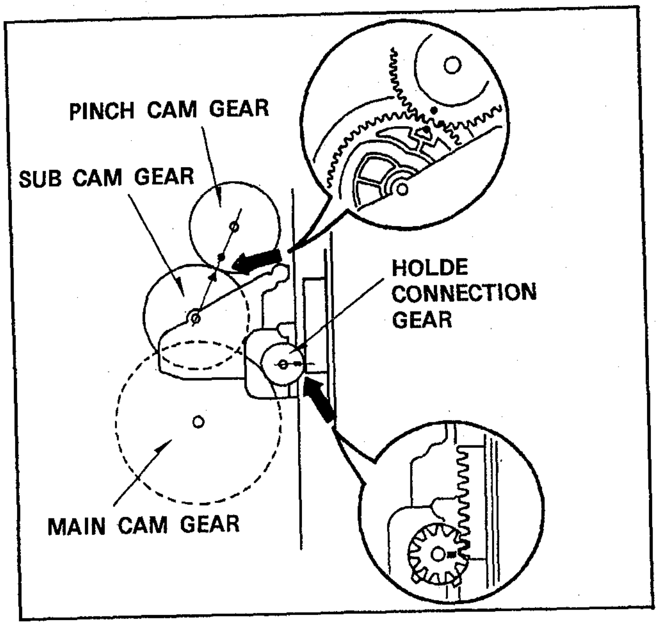
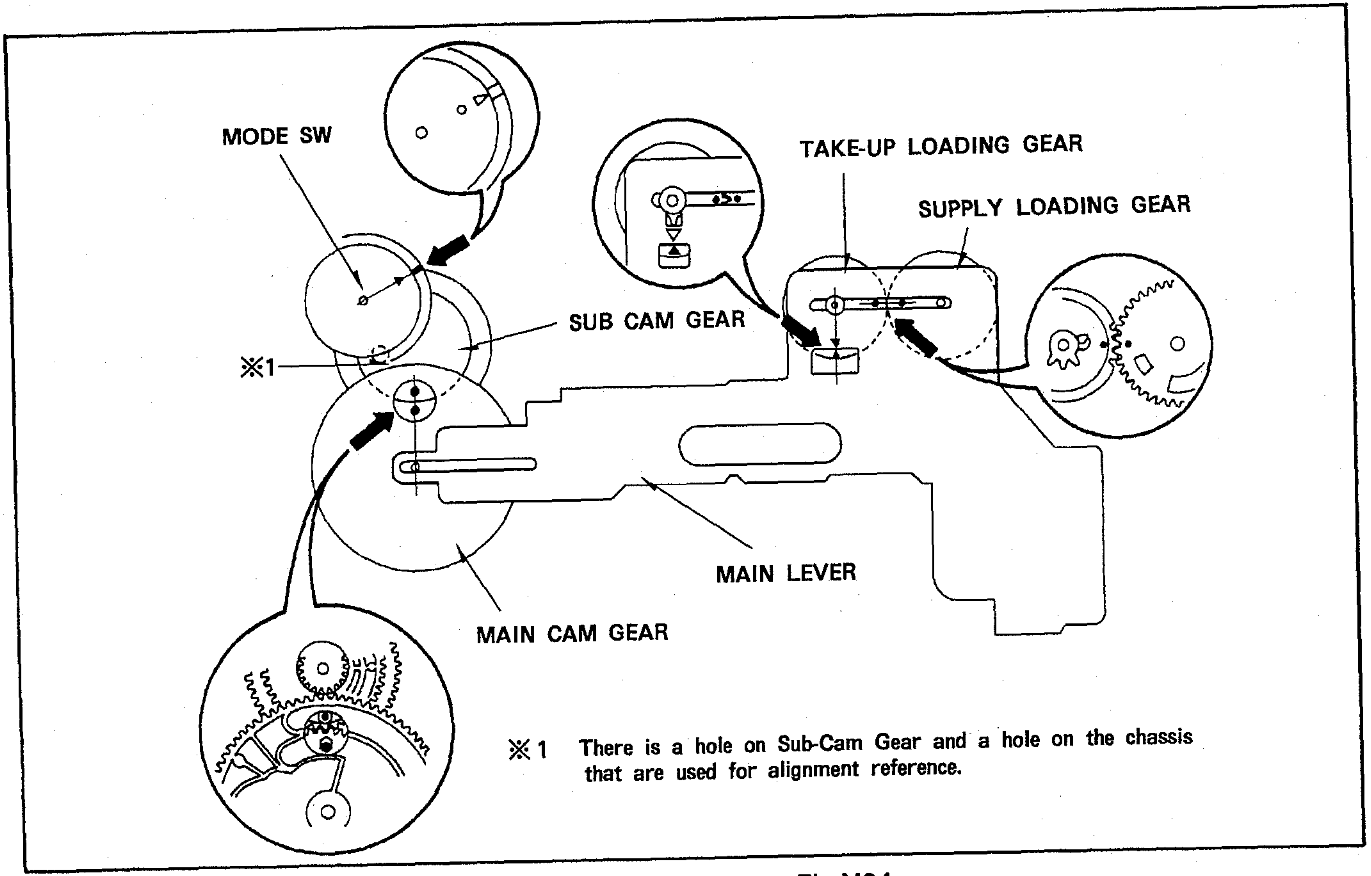

PINCH CAM GEAR
SUB CAM GEAR
HOLDE CONNECTION GEAR
MAIN CAM GEAR

Fig.M33


MODE SW
TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
SUB CAM GEAR
※1
MAIN LEVER
MAIN CAM GEAR

※1 There is a hole on Sub-Cam Gear and a hole on the chassis that are used for alignment reference.

Fig.M34

4-2. Assembly of parts on the Top Chassis

1. Install the Pinch Cam Gear onto shaft (A) and the P5 Arm Unit onto shaft (B).
2. Install the P5 Stopper Base with the cut washer (D) and screw (C).
3. Install the P5 Stopper on the P5 Stopper Base with latch (E).

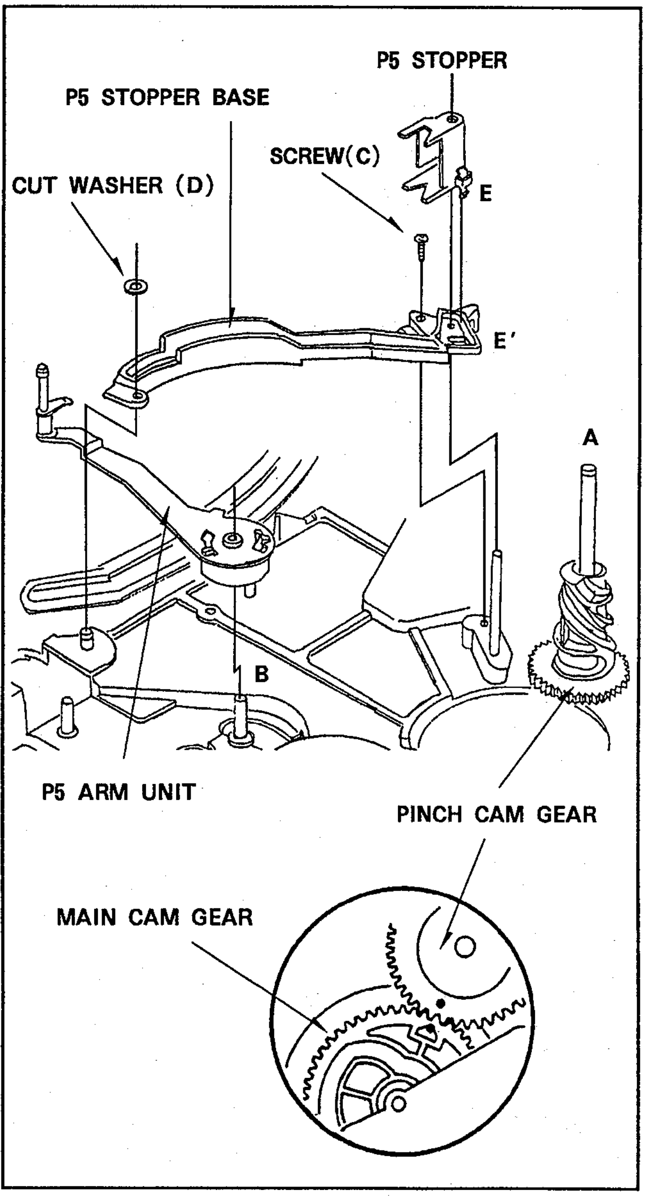

P5 STOPPER
P5 STOPPER BASE
SCREW(C)
CUT WASHER (D)
E
E'
A
B
P5 ARM UNIT
PINCH CAM GEAR
MAIN CAM GEAR

Fig.M35

4-3. Assembly of parts on the Bottom Chassis

1. Install the Idler Arm Unit onto shaft (F).
2. Install the Take-up and Supply Reel Gears onto shaft (G) and (H).
3. Install the Idler Regulator Level onto shaft (I) then install the Direct Lever.
4. Install the Center Clutch onto shaft (F) with the cut washer.

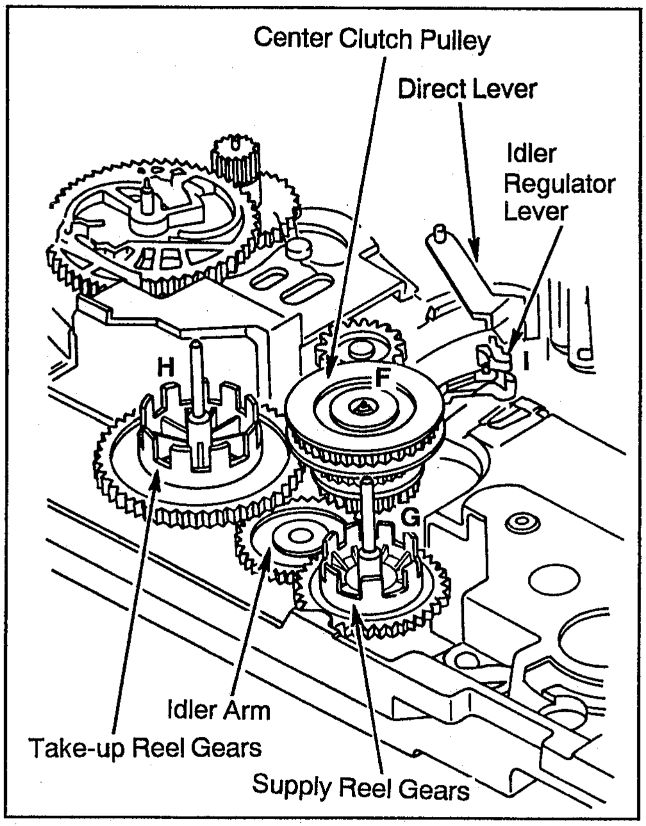

Center Clutch Pulley
Direct Lever
Idler Regulator Lever
H
F
I
G
Idler Arm
Take-up Reel Gears
Supply Reel Gears

Fig.M36

4-4. Assembly of Main Cam Gear and Sub Cam Gear

1. Install the Sub Cam Gear on to shaft (J) so that the chassis hole aligns with hole in the Sub Cam Gear.
2. Rotate the Holder Connection Gear to position of arrow mark as shown in Fig.M37.
3. Install the Main Cam Gear onto shaft (K) so that the hole of the Main Cam Gear aligns with the hole in the Sub Cam Gear. Also insert the boss of the Take-up Tension Regulator Arm into the slot on the Main Cam Gear.

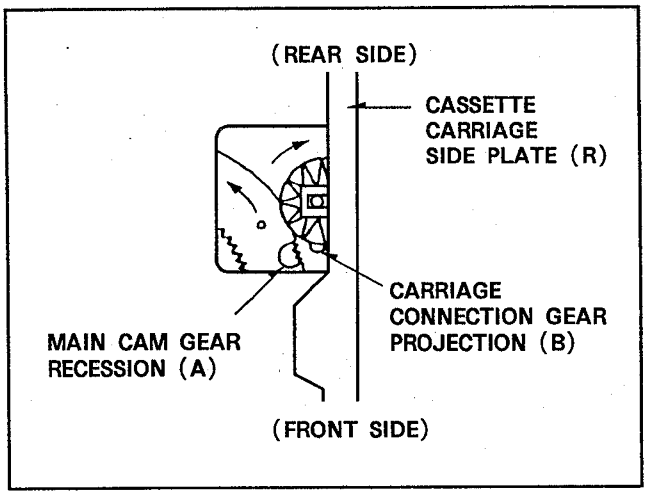

(REAR SIDE)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(FRONT SIDE)

Fig.M37

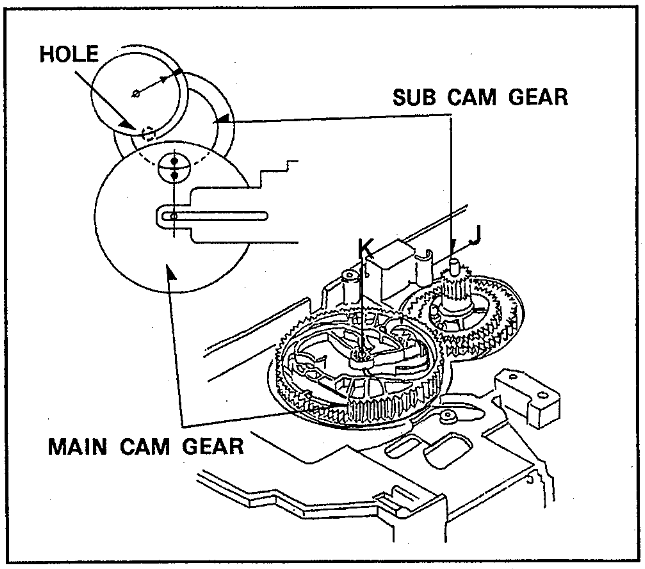

HOLE
SUB CAM GEAR
K
J
MAIN CAM GEAR

Fig.M38

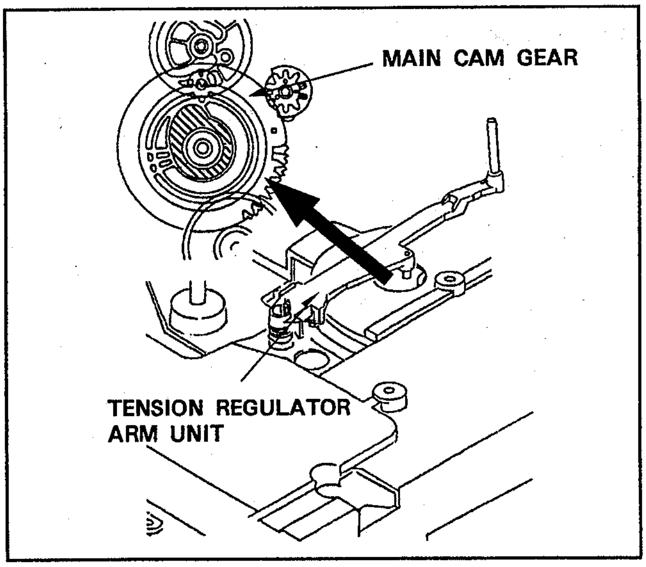

MAIN CAM GEAR
TENSION REGULATOR ARM UNIT

Fig.M39

4-5. Assembly of Mode Switch

1. Align a triangle mark on the Mode Switch Gear with the notch on the Mode Switch frame.
2. Confirm the Main and Sub Cam Gears aligned properly then install the Mode Switch with screw (L).

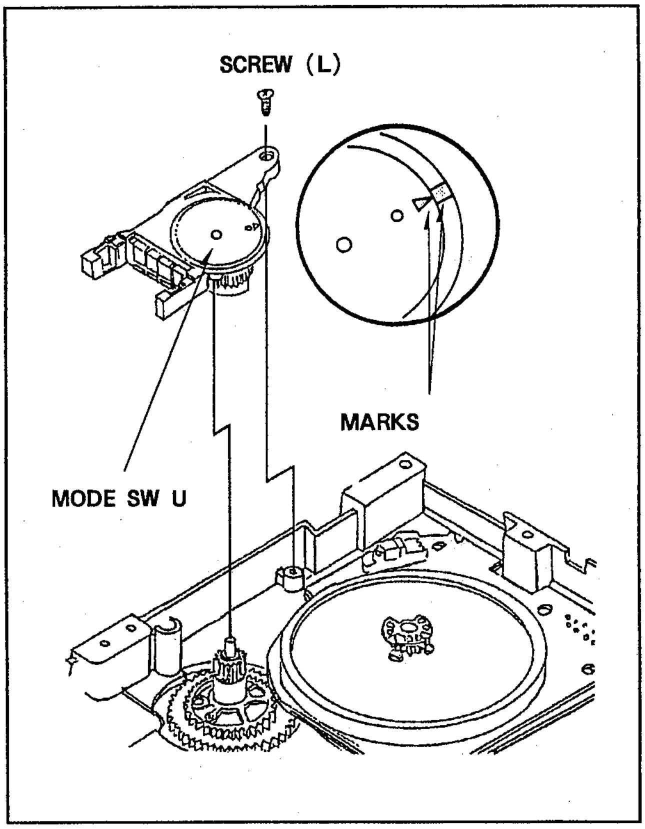

SCREW (L)
MARKS
MODE SW U

Fig.M40

4-6. Assembly of Take-up and Supply Loading Gears.

1. Install the Supply Loading Gear onto the shaft (S).
2. Install the Take-up Loading Gear onto the shaft (T) so that hole on the Take-up Loading Gear align with the hole on the Supply Loading Gear.
3. Install the Supply Loading Arm onto shaft of the Supply Inclined Base with washer.
4. Insert the Take-up Loading Arm onto shaft of the Take-up Inclined Base with washer.

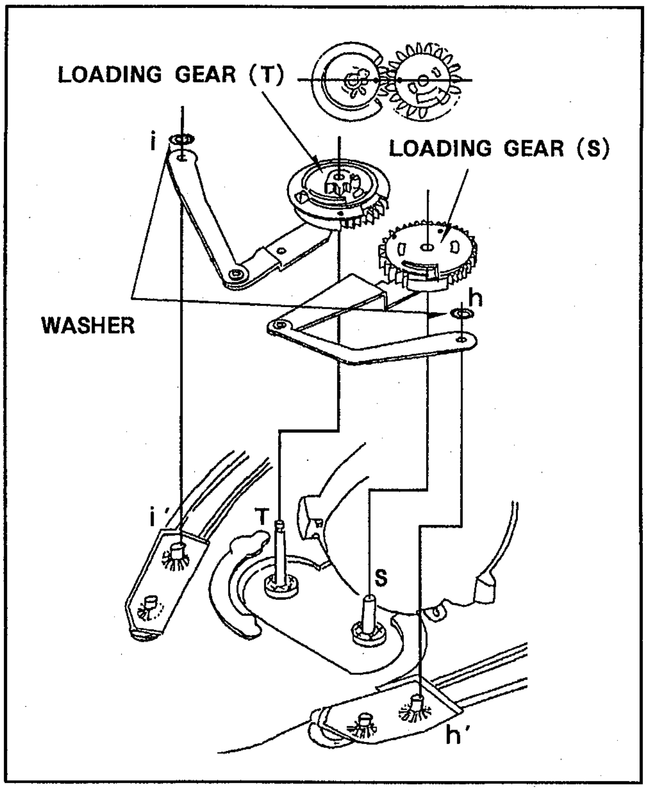

LOADING GEAR (T)
LOADING GEAR (S)
i
h
WASHER
i'
T
S
h'

Fig.M41

4-7. Assembly of Main Lever

1. Install the Main Lever Arm checking that the boss of arms and shafts are in correct position and mark on the Main Lever Arm is aligned with mark on the Take-up Loading Gear.
2. Insert the 2 cut washer as shown in Fig.M42.

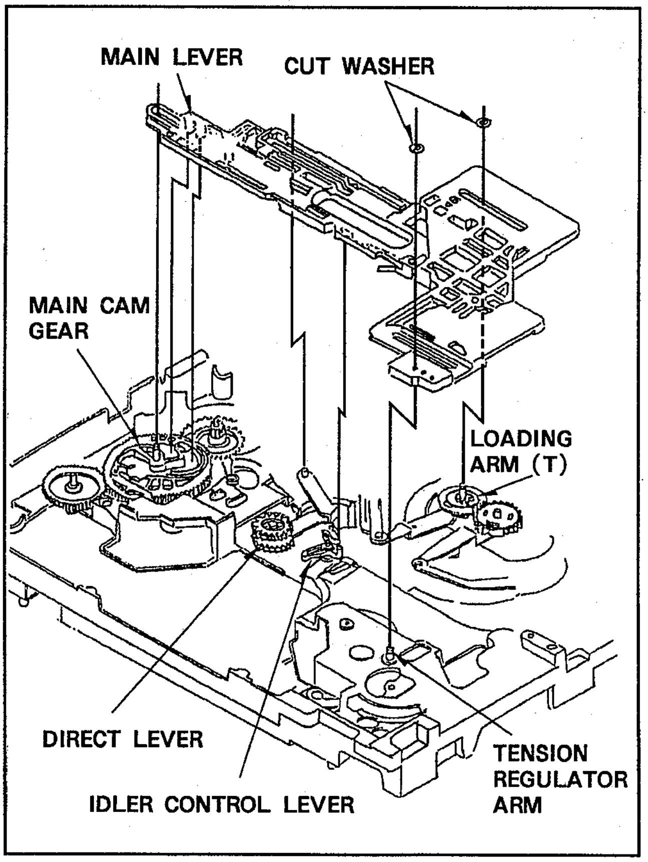

MAIN LEVER
CUT WASHER
MAIN CAM GEAR
LOADING ARM (T)
DIRECT LEVER
IDLER CONTROL LEVER
TENSION REGULATOR ARM

Fig.M42

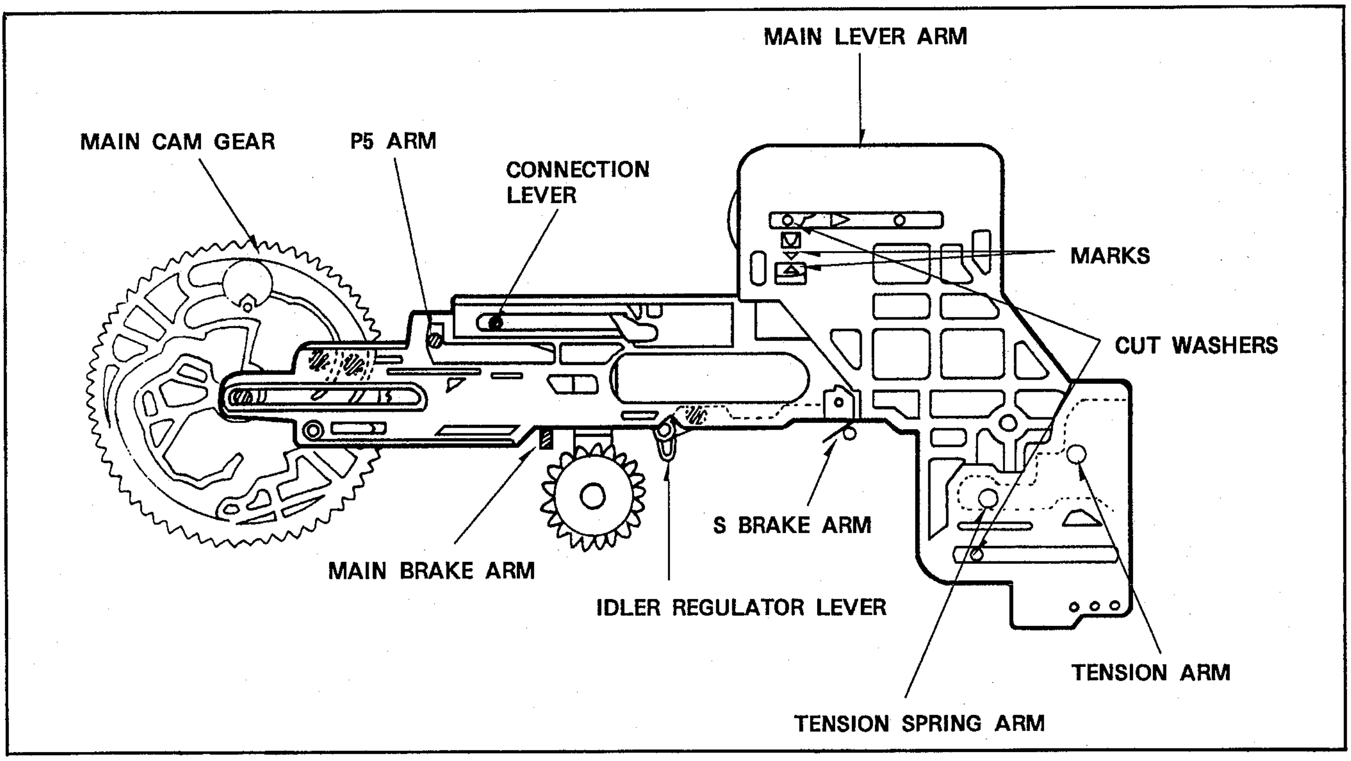

MAIN LEVER ARM
MAIN CAM GEAR
P5 ARM
CONNECTION LEVER
MARKS
CUT WASHERS
S BRAKE ARM
MAIN BRAKE ARM
IDLER REGULATOR LEVER
TENSION ARM
TENSION SPRING ARM

Fig.M43

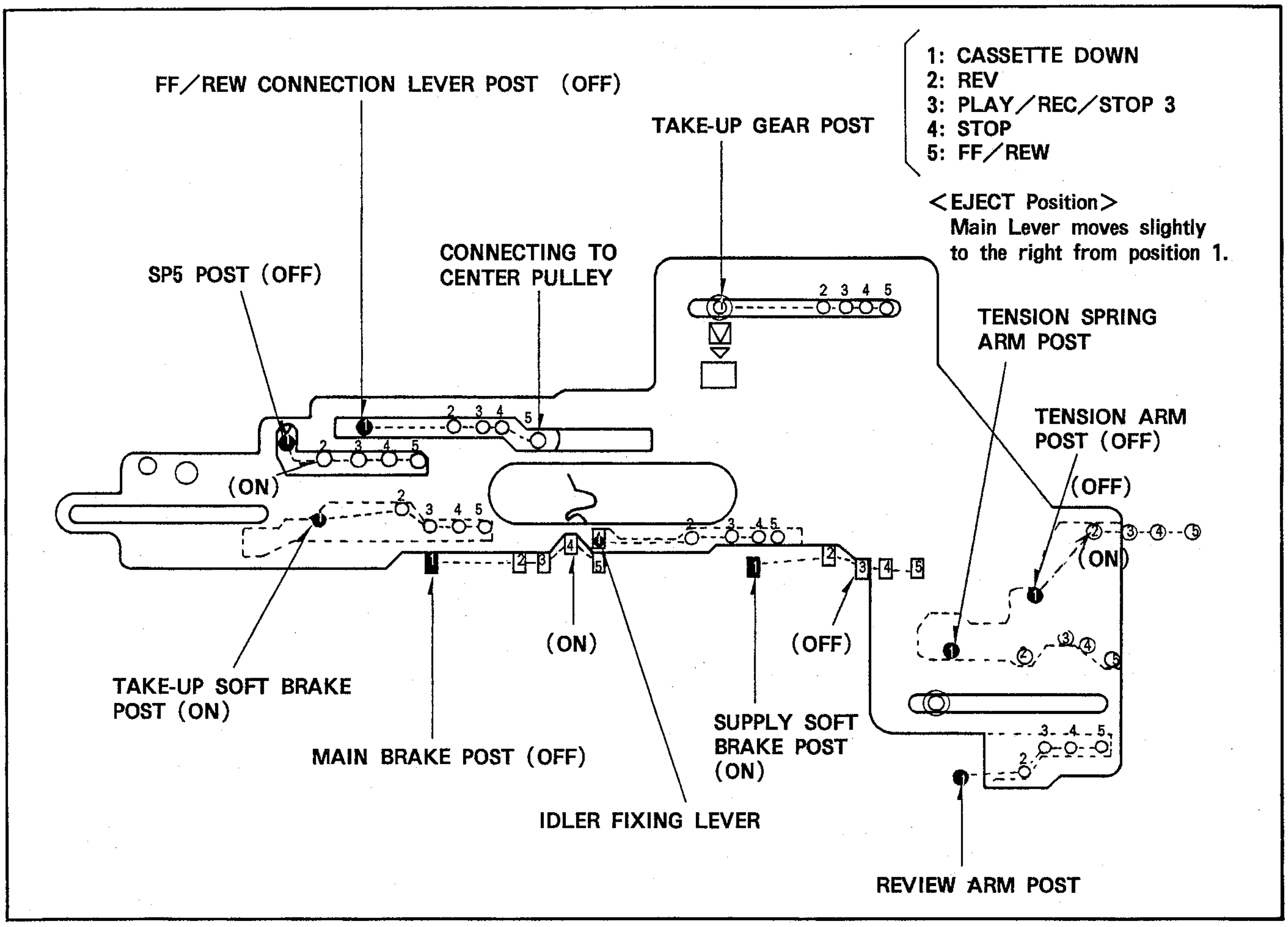

1: CASSETTE DOWN
2: REV
3: PLAY/REC/STOP 3
4: STOP
5: FF/REW
<EJECT Position>
Main Lever moves slightly to the right from position 1.
FF/REW CONNECTION LEVER POST (OFF)
TAKE-UP GEAR POST
SP5 POST (OFF)
CONNECTING TO CENTER PULLEY
TENSION SPRING ARM POST
TENSION ARM POST (OFF)
(ON)
(OFF)
(ON)
(ON)
(OFF)
TAKE-UP SOFT BRAKE POST (ON)
MAIN BRAKE POST (OFF)
SUPPLY SOFT BRAKE POST (ON)
IDLER FIXING LEVER
REVIEW ARM POST
1
2
3
4
5

Fig.M44

4-8. Reinstall of the Cassette Compartment

1. Push the locking tabs to direction as shown in Fig.M45 and remove the Top Plate.

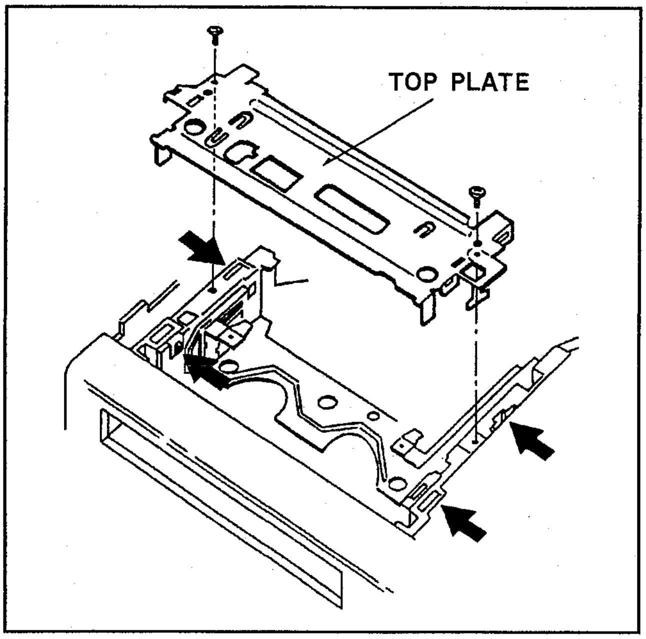


Fig.M45

2. Lift up the Cassette Holder Unit as shown in Fig.M46.

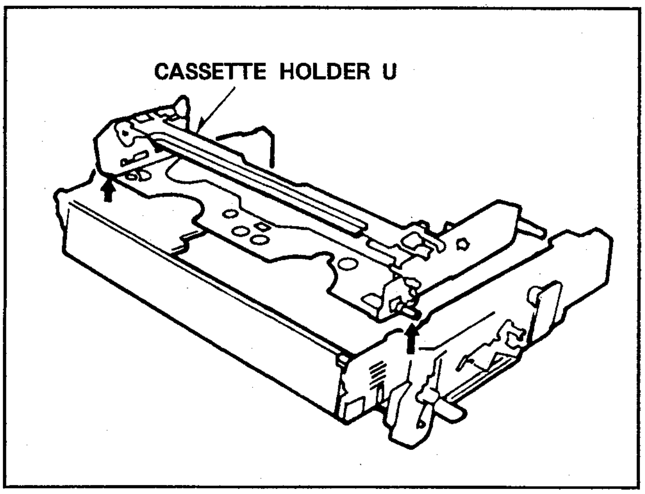

CASSETTE HOLDER U

Fig.M46

3. Press the Wiper Arm to direction indicated by arrow mark so that the Wiper Arm comes to cassette down position completely as shown in Fig.M48. Confirm a triangle mark on the Wiper Arm aligns with the mark on the Rack (B) Unit.

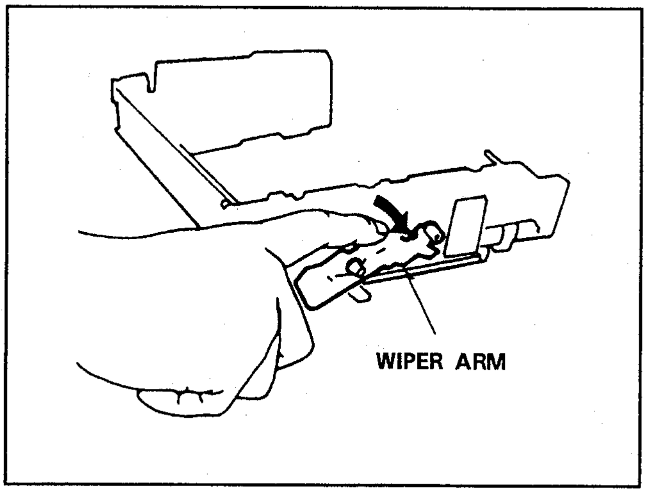


Fig.M47

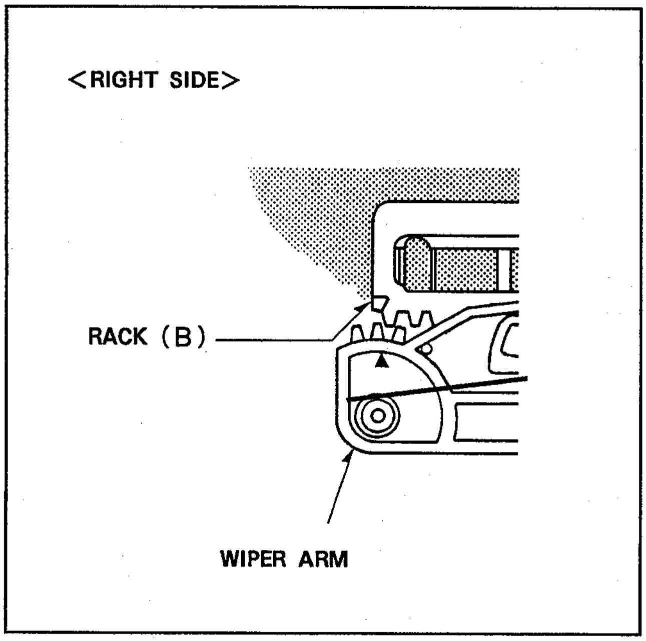

<RIGHT SIDE>
RACK (B)
WIPER ARM

Fig.M48

4. Install the cassette compartment (without cassette holder) to the mechanical chassis so that mark on the Holder Connection Gear should line up with first tooth of the Rack Gear as shown in Fig.M49.

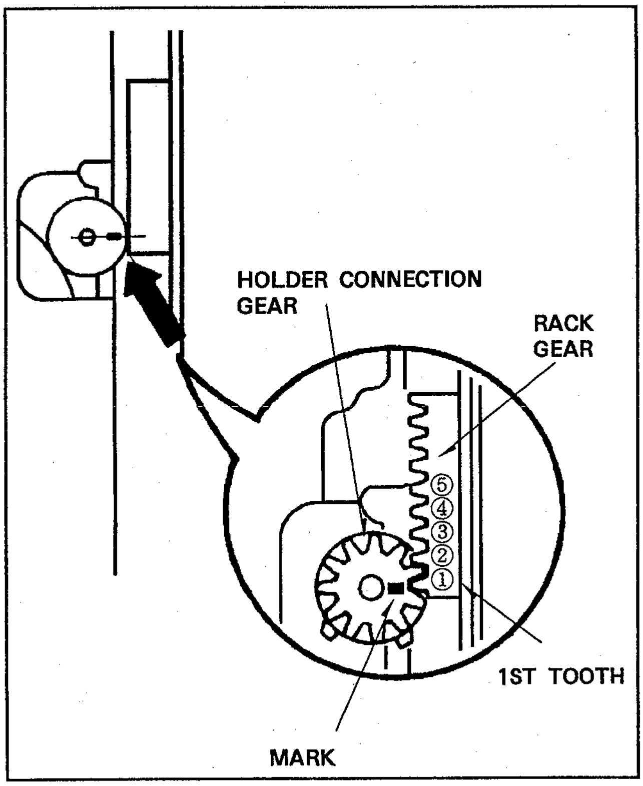

HOLDER CONNECTION GEAR
RACK GEAR
⑤
④
③
②
①
1ST TOOTH
MARK

Fig.M49

5. Tighten 4 screws as shown in Fig.M50.
6. Manually move the loading mechanism toward the EJECT position by turn the Loading Motor and stop just before completion, so that the Wiper Arm straight up.
7. Install the Cassette Holder Unit in the Cassette Compartment Base as shown in Fig.M51.
8. Install the Top Plate on the Cassette Compartment Base.
9. Manually confirm that front loading and main loading run smoothly.

<NOTE>

For proper front loading, the guide pin on the opener lever should follow the upper track of the right side panel as shown in Fig.M52.

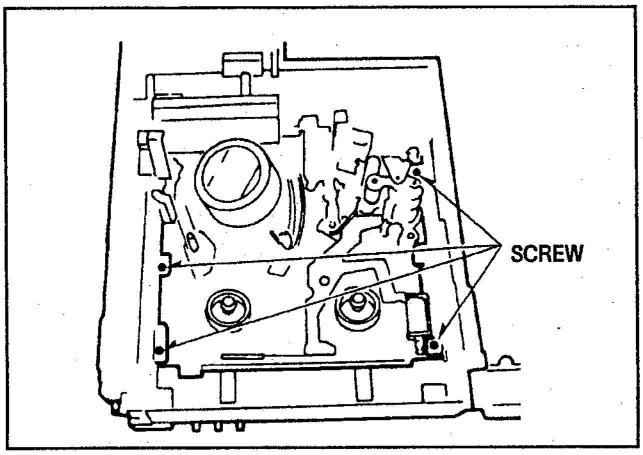


Fig.M50

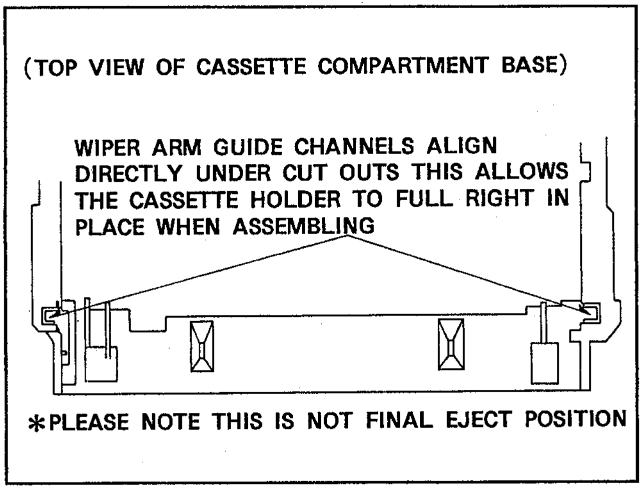

(TOP VIEW OF CASSETTE COMPARTMENT BASE)
WIPER ARM GUIDE CHANNELS ALIGN DIRECTLY UNDER CUT OUTS THIS ALLOWS THE CASSETTE HOLDER TO FULL RIGHT IN PLACE WHEN ASSEMBLING
*PLEASE NOTE THIS IS NOT FINAL EJECT POSITION

Fig.M51

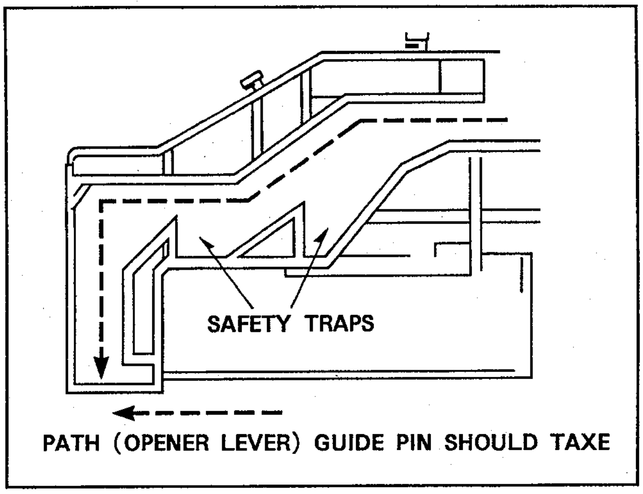

SAFETY TRAPS
PATH (OPENER LEVER) GUIDE PIN SHOULD TAXE

Fig.M52

Order No. VRD9704004S8

Service Manual

Supplement

Effective from : Running Change

Video Product

Model No. All K-Mechanism

Subject : Addition of Parts

Please use this service manual together with the service manual for Order No. and Model No. All K-Mechanism

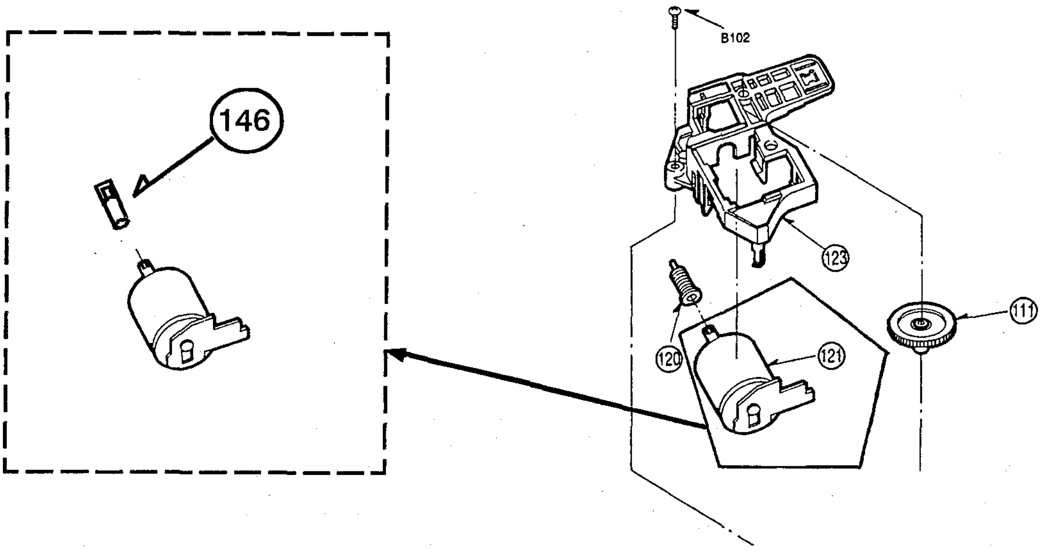
INTERCHANGEABILITY CODE See the I/C column on the following Part Number List

	Parts	Production		Parts	Production		Parts	Production		Parts	Production		
A	Original	Early	B	Original	Early	C	Original	Early	D	Original	Early	E	Addition
	New	Late		New	Late		New	Late		New	Late	F	Deletion
												G	Other

Parts Number List

Ref No.	Original Part No.	New Part No.	Part Name & Description	I/C	Remarks
146(4)	————	VDP1434	LOADIND MOTOR COUPLING	E	

NOTE : Introduction of New jig for Loading Motor Coupling insertion.
Jig No. : VFK1322
Due to the height adjustment of coupling has to be done when the coupling is inserted to the Loading motor, the inserter jig must be required when mount the coupling.



Panasonic

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Printed in Japan

⚠ WARNING

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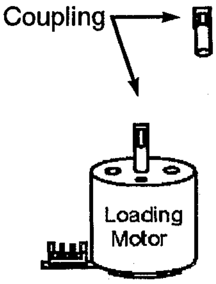
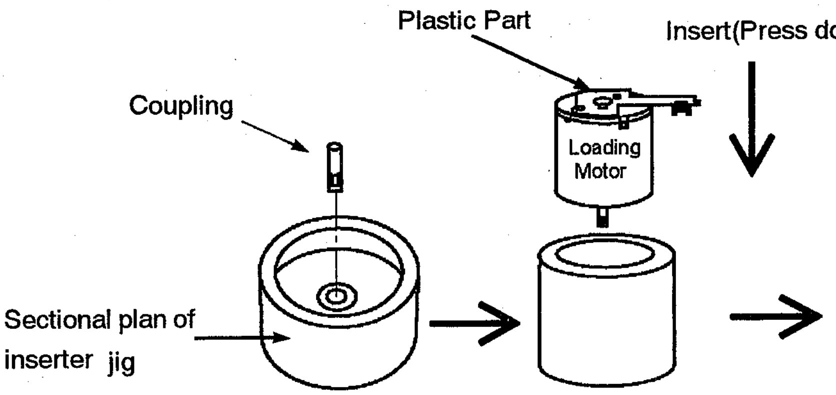
Replacement of the coupling

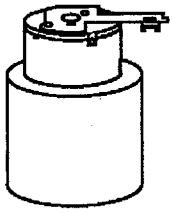
1. Remove the defective motor coupling from the loading motor <Fig. A>
2. Set a spare motor coupling into the center hole of the inserter jig (VFK1322) as shown in Fig. 1.
   NOTE : Pay attention of the directionality of a spare motor coupling.
3. Set the loading motor into the inserter jig and attach the coupling on it as shown in Fig. 2.
   NOTE : Press the plastic part of the loading motor or down till the motor shaft touches the bottom of the inserter jig.
4. Take the loading motor with the coupling attached out of the inserter jig.



<Fig.A>



<Fig.1>



<Fig.2>

Printed by: Schaltungsdienst Lange, Berlin (GERMANY)